# Offboard Diagnostic Information System Service User Manual




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# Chapter 1. Introduction

## 1.1. Notes on the manual

This manual describes how to use the **Offboard Diagnostic Information System Service** program of the Volkswagen Group. The program is used in the field of workshop diagnosis. It allows vehicle control units to be identified and event memory entries to be read. It also supports vehicle repairs using guided fault finding. Functions such as test instrument support, flashing control units and vehicle self-diagnosis extend the range of applications. All important information and services of the Volkswagen group are available to you for your work via network connection to the Group systems.

**Offboard Diagnostic Information System Service** is intended for all brands of the Volkswagen group.

To illustrate the significant workflows, such as diagnosis and flashing, the corresponding chapters include a graphical view showing which part of the process is just being described, what the previous step was and what is to do next.

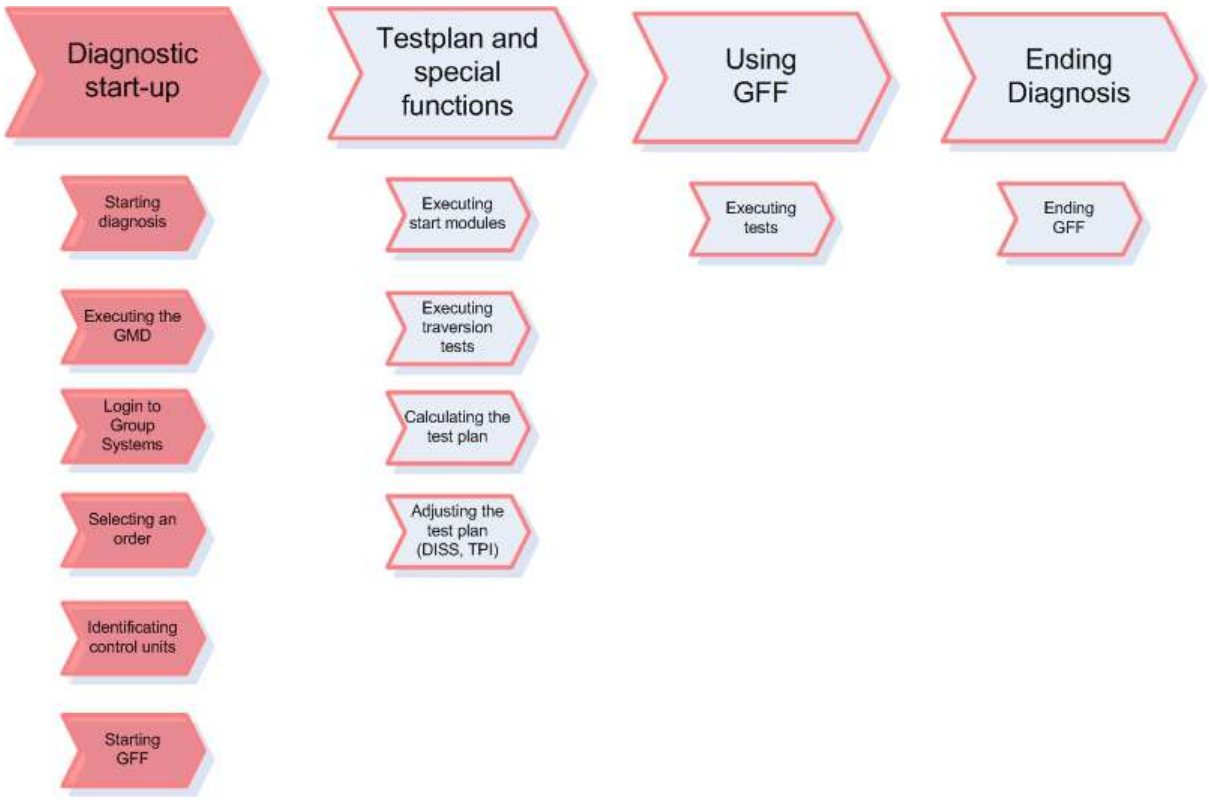



**Figure 1.1. Example of a diagnostic workflow**

The complete diagnostic workflow is displayed in the example shown above. The diagnostic workflow consists of four parts, each consisting of the corresponding individual steps. In the figure, the currently described part is highlighted in red.

The description of the individual parts with the individual steps is as follows:

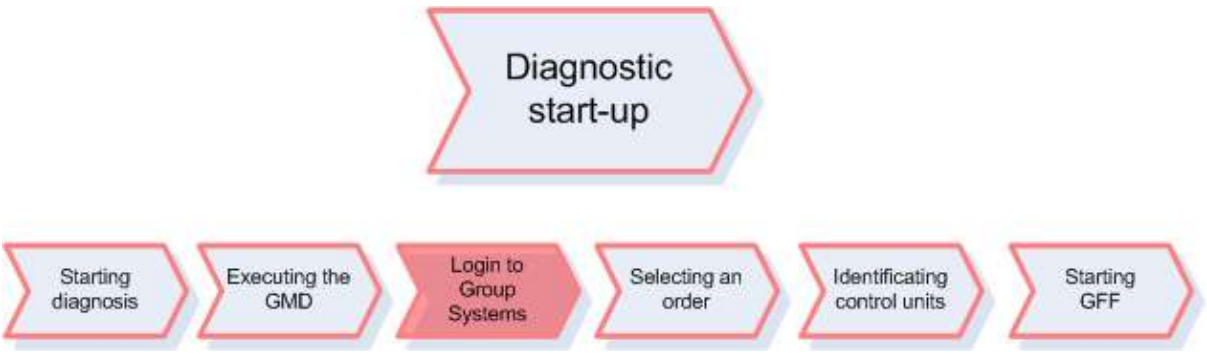



**Figure 1.2. Example of part of a workflow with individual steps**

In this example, the individual steps are displayed in their practical chronological order and the currently described individual step is displayed in red.

**Note:**

Please read this manual carefully before you use **Offboard Diagnostic Information System Service** for the first time. It is imperative that you observe the warnings and notes with regard to using **Offboard Diagnostic Information System Service** and the vehicle during diagnostic and repair work.

Up-to-dateness of the figures: All figures are up-to-date even if they have an older version number.

# 1.2. Structure of the manual

To ensure quick access to the information you require, we recommend that you use the table of contents in the PDF document. If the manual is available in electronic form, click on the topic you require once in the table of contents to go directly to that chapter.

## Table of Contents

1. Introduction ..... 11
1.1. Notes on the manual ..... 11

**Figure 1.3. Example of an active link in the table of contents**

The blue push-pin is usually used as a bullet or as a means of structuring the procedure within the system.

**Note:**

The red pin, the addition **Note:** and the border (for black-and-white printouts) indicate particularly important information that must always be observed.

**Note:**

Additional information and useful tips are available below this symbol.

Fonts:

All system components such as menus, buttons and keys on the keyboard or touchscreen are displayed in **bold**. This makes it easier to search within the manual and in **Offboard Diagnostic Information System Service**. File names or paths are displayed in *italics*.

**Example:** "After clicking on the **Start diagnosis** button, the vehicle's basic characteristics must always be selected. The **Basic vehicle characteristics** dialogue appears."

References:

References within this manual enable you to go straight to linked or related topics. They are also linked electronically.

⇨ **Reference:**

The chapter entitled "Name of the chapter" also contains additional information

# Chapter 2. System requirements

To use **Offboard Diagnostic Information System Service**, the following requirements must be met:

**Hardware requirements**

- PCMCIA slot with EDIC card or Bluetooth via VAS5054 or USB cable to VAS5054
- PT boxes and VAS 5055
- CPU from 1Ghz and higher recommended
- RAM > 512 MB
- Hard drive space > 10 GB

**Tester hardware supported**

- VAS5051B
- VAS5052A
- VAS6150
- VAS6150A

From the 4th quarter of 2011, the following tester hardware will also be supported:

- VAS6150B
- VAS6160

**Software requirements**

- Windows XP / SP3 or Windows 2000
- Java Runtime Environment 1.5.0_11
- Libraries (DLL) for Microsoft Visual Studio 2005, vcredist_x86.exe (included in Windows XP / SP3)

Note:

The libraries installed for Microsoft Visual Studio 2005 are normally available in the directory *c:\Windows\WinSxS* and start with *x86_Microsoft_VC80_CRT**. Without this data, a test device cannot create a **hardware key** meaning that no **licence** can be acquired in **Offboard Diagnostic Information System eShop** for the device.

If the required data is not available, the local administrator needs to be consulted.

# Chapter 3. Installation

This chapter deals with the process of installing **Offboard Diagnostic Information System Service**.

**Note:**

If an older version of **Offboard Diagnostic Information System Service** is already installed on the device, it needs to be uninstalled first before starting to install the current **Offboard Diagnostic Information System Service**.

To install, uninstall and configure **Offboard Diagnostic Information System Service**, **administration rights** are required for the operating system on the tester or laptop.

You have two installation options.

The first option is **online** installation:

- Open the e-mail you received from eShop.
- Save the licence certificate from the e-mail to a directory of your choice.
- To access the corresponding installation file (setup.exe) on mirror server 2, click on the URL in the e-mail (make sure that you click on the version you ordered).
- Now save setup.exe to a directory of your choice.
- DVD To start the installation wizard, double-click on the stored setup.exe file.

The second option is **offline** installation:

- Save the licence certificate received via e-mail to a directory of your choice.
- Insert the DVD with the installation data in the drive.
- After the DVD starts, select the version you ordered.
- To start the installation wizard, click on the appropriate setup.exe file.

**Note:**

During offline installation, it is important that you install the **Offboard Diagnostic Information System Service** version that corresponds to the order. If setup.exe of a different version is installed, it will not be possible to start the application, since the licence will not correspond.

The installation wizard starts.

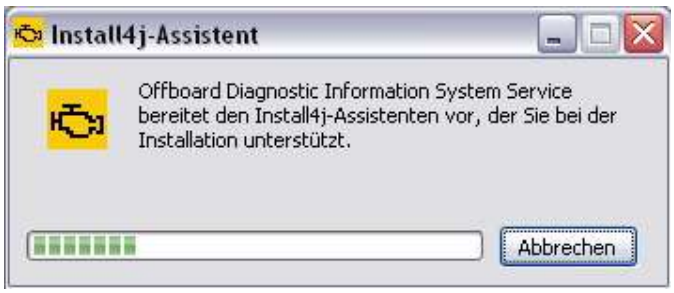

Install4j-Assistent
Offboard Diagnostic Information System Service bereitet den Install4j-Assistenten vor, der Sie bei der Installation unterstützt.
Abbrechen

**Figure 3.1. Starting the installation**

**Cancel**:Click on this button to cancel the installation of **Offboard Diagnostic Information System Service**.

The desired **language** needs to be selected for the installation.




**Figure 3.2. Language selection for installation**

To select the language, click on the **pop-up menu** to set the language you require for **Offboard Diagnostic Information System Service**. German is shown as the default language.

**OK:**The selection is confirmed.

**Cancel:** The installation is terminated.

After selecting the language a message appears asking you to close any programs still open.


Setup - Offboard Diagnostic Information System Service 4.9.30
Welcome to the Offboard Diagnostic Information System Service Setup Wizard
This will install Offboard Diagnostic Information System Service on your computer.
It is recommended that you close all other applications before continuing.
Click Next to continue, or Cancel to exit Setup.
Next >
Cancel

**Figure 3.3. The Offboard Diagnostic Information System Service Setup wizard**

**Continue:** The installation of **Offboard Diagnostic Information System Service** is continued.

**Cancel:** The installation is terminated.

**Note:**

To ensure that **Offboard Diagnostic Information System Service** is installed correctly, close any open programs before installing **Offboard Diagnostic Information System Service**.

Now specify the **target folder** for the installation.

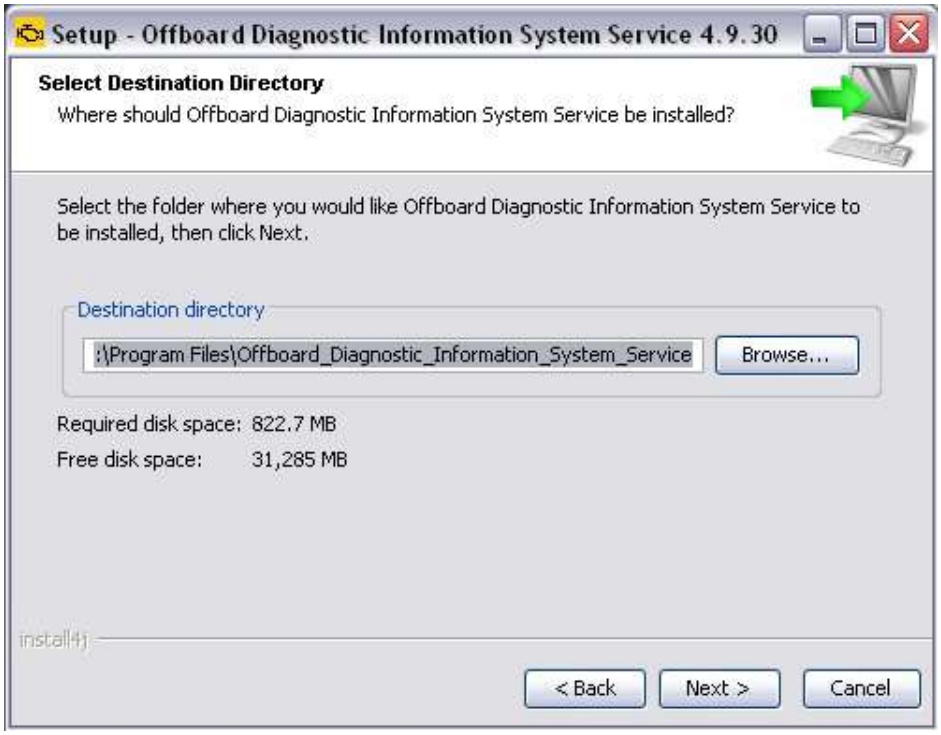

Setup - Offboard Diagnostic Information System Service 4.9.30
Select Destination Directory
Where should Offboard Diagnostic Information System Service be installed?
Select the folder where you would like Offboard Diagnostic Information System Service to be installed, then click Next.
Destination directory
:\Program Files\Offboard_Diagnostic_Information_System_Service
Browse...
Required disk space: 822.7 MB
Free disk space: 31,285 MB
Install4j
< Back
Next >
Cancel

**Figure 3.4. Target folder for installation**

The default target folder is *C:\Programs\Offboard_Diagnostic_Information_System_Service*

The path may be different for operating systems in other languages,

e.g. *C:\Program Files\Offboard_Diagnostic_Information_System_Service*

**Back:** Go back in the installation process one step.

**Continue:** The installation of **Offboard Diagnostic Information System Service** is continued.

**Cancel:** The installation is terminated.

Now, the **target directory for the diagnostic components** (MCD server, MCD projects and PDU API) needs to be specified.

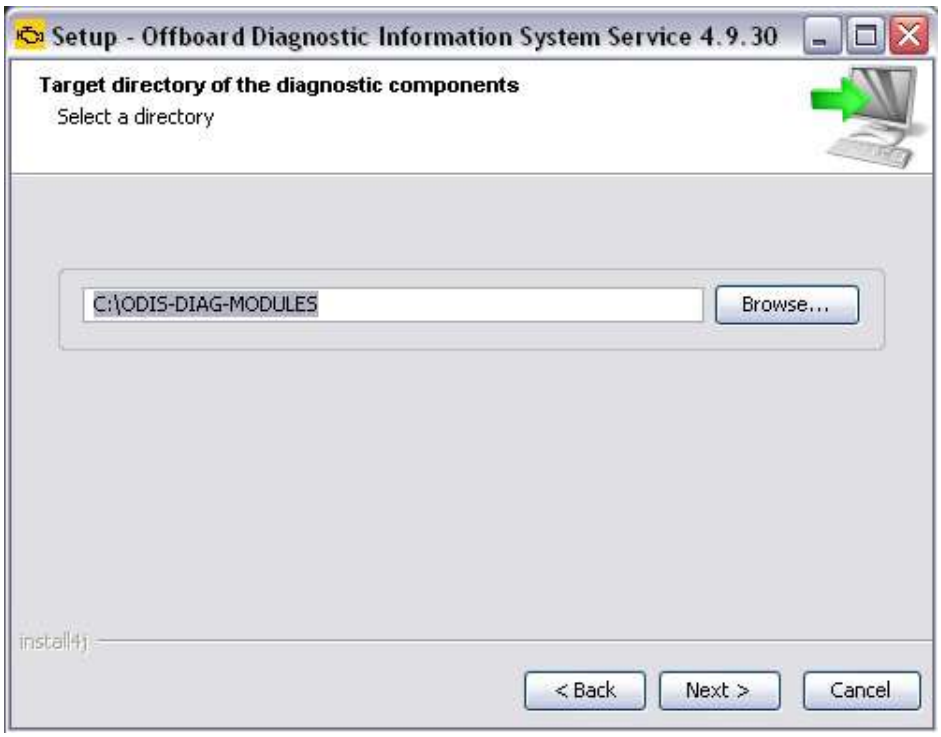



**Figure 3.5. Target directory for diagnostic components**

The default target directory is *C:\ODIS-DIAG-MODULES*

**Back:** Go back in the installation process one step.

**Continue:** The installation of **Offboard Diagnostic Information System Service** is continued.

**Cancel:** The installation is terminated.

Use the **Target platform** pop-up menu to select on which device **Offboard Diagnostic Information System Service** is to be installed.




**Figure 3.6. Platform selection**

For diagnostic systems, select the type of diagnostic system here; for a PC or notebook, always select the option **Standard PC/Notebook**.

**Back:** Go back in the installation process one step.

**Continue:** The installation of **Offboard Diagnostic Information System Service** is continued.

**Cancel:** The installation is terminated.

The **Select application languages** pop-up menu is used to select the application languages supported.

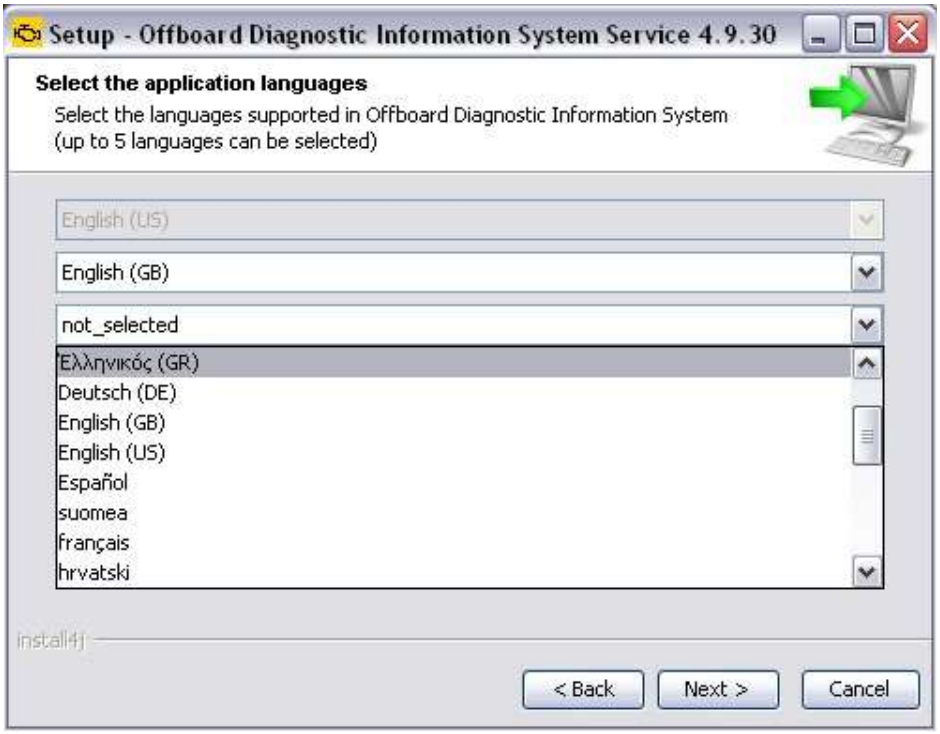



**Figure 3.7. Selection of the application languages**

Up to 5 languages can be selected.

**Back:** Go back in the installation process one step.

**Continue:** The installation of **Offboard Diagnostic Information System Service** is continued.

**Cancel:** The installation is terminated.

The **Diagnostic interface** pop-up menu is used to select the desired diagnostic interface.

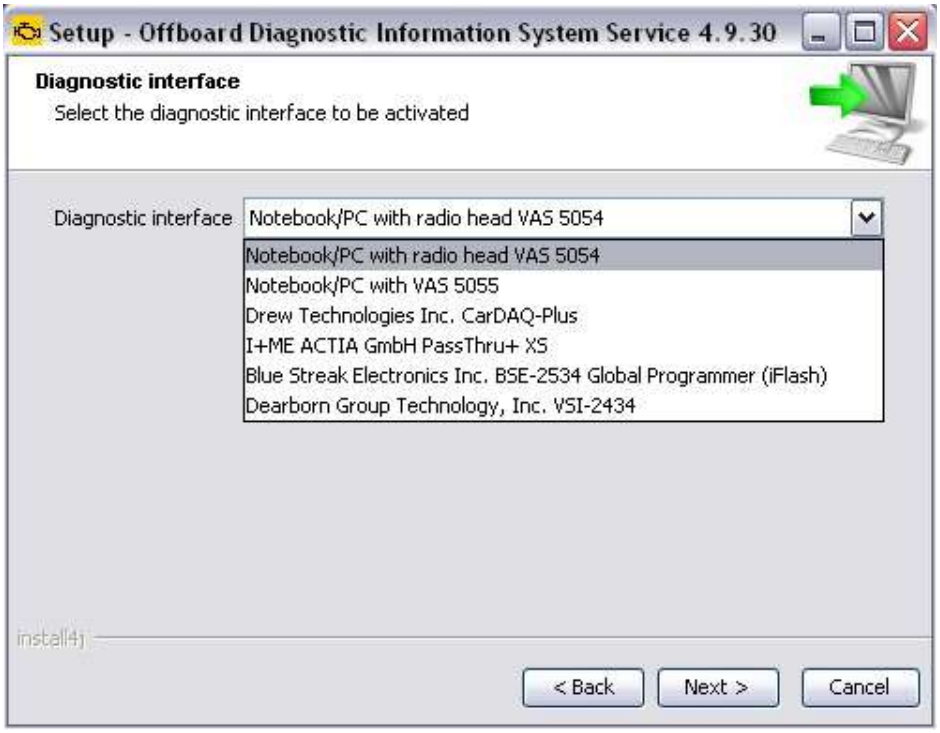

Setup - Offboard Diagnostic Information System Service 4.9.30
Diagnostic interface
Select the diagnostic interface to be activated
Diagnostic interface
Notebook/PC with radio head VAS 5054
Notebook/PC with radio head VAS 5054
Notebook/PC with VAS 5055
Drew Technologies Inc. CarDAQ-Plus
I+ME ACTIA GmbH PassThru+ XS
Blue Streak Electronics Inc. BSE-2534 Global Programmer (iFlash)
Dearborn Group Technology, Inc. VSI-2434
install4j
< Back
Next >
Cancel

**Figure 3.8. Selecting the diagnostic interface**

**Back:** Go back in the installation process one step.

**Continue:** The installation of **Offboard Diagnostic Information System Service** is continued.

**Cancel:** The installation is terminated.

**Note:**

Offboard Diagnostic Information System Service has been prepared for the use of PassThru boxes. The following models can be used with Offboard Diagnostic Information System Service without restrictions:

- Blue Streak Electronics Inc. - iflash Global Programmer
- Dearborn Group - VSI-2534
- Drew Technologies - CarDAQ-Plus
- I+ME Actia GmbH - PassThru+ XS

The PassThru boxes listed have already been configured as diagnostic interfaces in Offboard Diagnostic Information System. For start-up, you only need to connect the respective box to the diagnostic tester via USB port and install the corresponding software package from the Offboard Diagnostic Information System Service installation folder (sub-directory: "drivers").

If a **Bluetooth interface** was selected, a message will appear informing you that to use the VAS5054 according to the radio head documentation, Bluetooth pairing needs to be established.

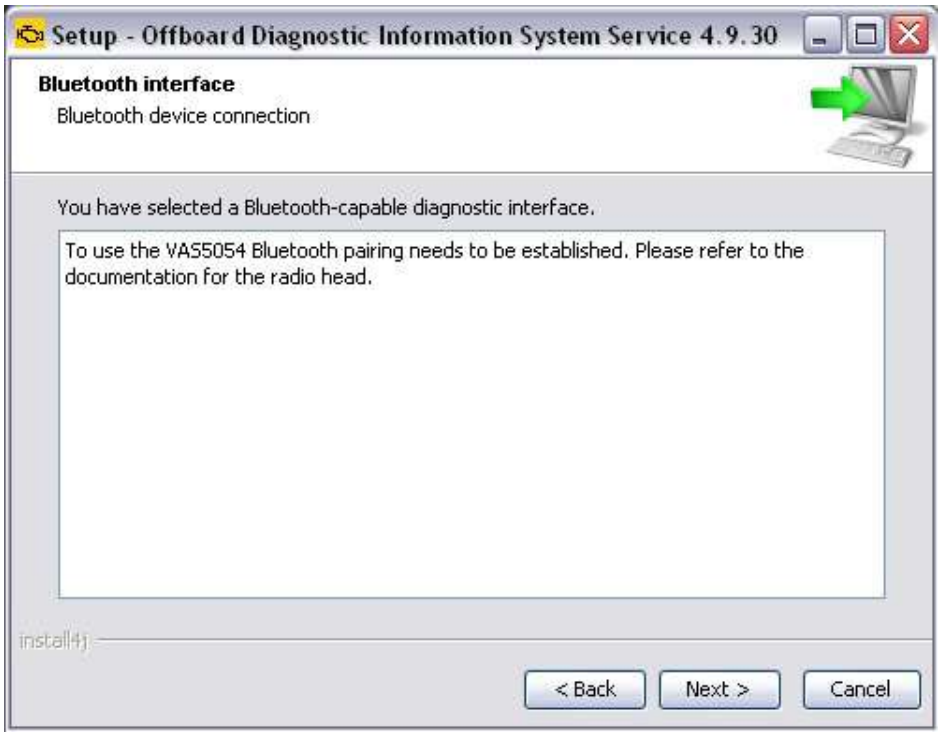

Setup - Offboard Diagnostic Information System Service 4.9.30
Bluetooth interface
Bluetooth device connection
You have selected a Bluetooth-capable diagnostic interface.
To use the VAS5054 Bluetooth pairing needs to be established. Please refer to the documentation for the radio head.
Install4j
< Back
Next >
Cancel

**Figure 3.9. Message for Bluetooth interface**

**Back:** Go back in the installation process one step.

**Continue:** The installation of **Offboard Diagnostic Information System Service** is continued.

**Cancel:** The installation is terminated.

**Note:**

To install and use a diagnostic radio head, please refer to the document *Diagnostic radio head VAS 5054A, Diagnostic interface VAS 5055, Installation and start-up on VAS 5052A from Base CD 16 and VAS 6150 from Base CD 15*, Version 1.11.

With the **Selection of the certificate file** option, a valid certificate is assigned to **Offboard Diagnostic Information System Service**. The certificate is available in the form of a *license.dat*.

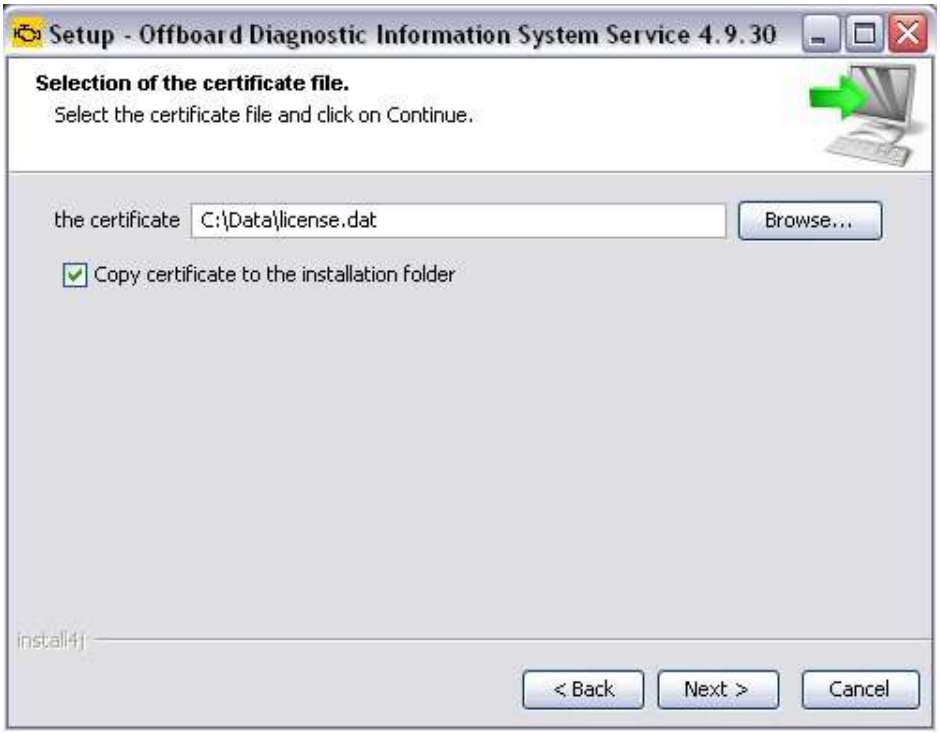



**Figure 3.10. Selecting the certificate**

**Browse**: The storage location of the *license.dat* file can be searched for in the Windows file directory.

An example of the storage location for the certificate is:

*C:\Licences\license.dat*

To automatically transfer the name of the storage location to the text field, click on the certificate file, *license.dat*.

**Copy certificate to the installation folder:** If this option is ticked, the certificate is copied into the default installation folder. Offboard Diagnostic Information System Service is installed without certificate file if there is no tick. Then it needs to be installed before starting the program for the first time.

The default installation folder for the licence file is:

*C:\Program Files\Offboard_Diagnostic_Information_System_Service\license\license.dat*

**Back:** Go back in the installation process one step.

**Continue:** The installation of **Offboard Diagnostic Information System Service** is continued.

**Cancel:** The installation is terminated.

Now select the name of the **start menu folder**. "Offboard Diagnostic Information System Service" is used by default. If you do not wish to create a directory in the start menu, tick the checkbox.

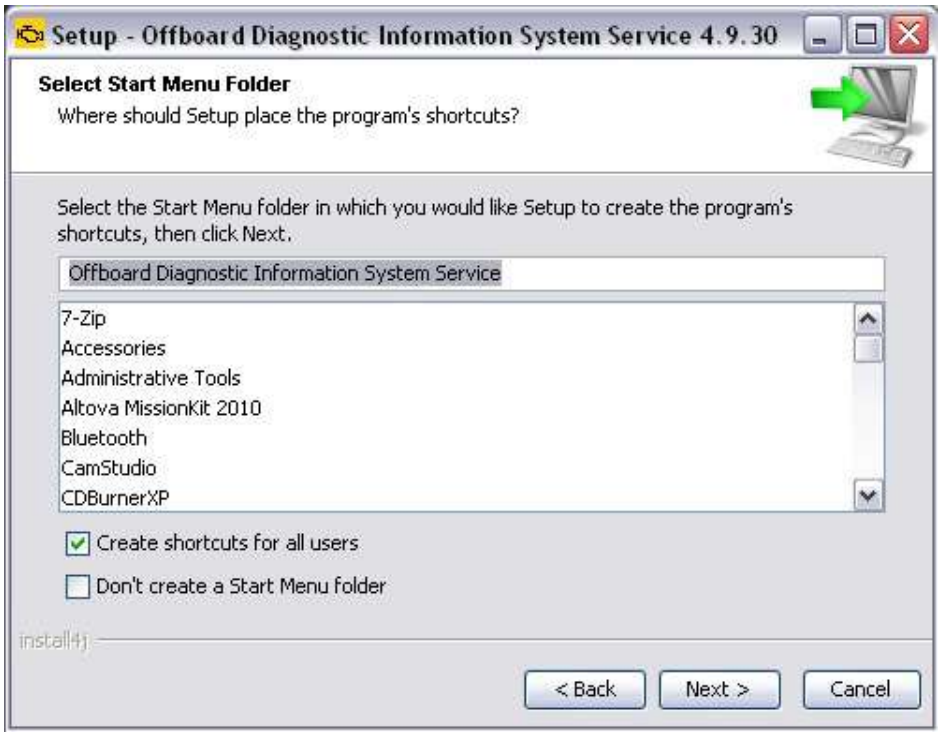

Setup - Offboard Diagnostic Information System Service 4.9.30
Select Start Menu Folder
Where should Setup place the program's shortcuts?
Select the Start Menu folder in which you would like Setup to create the program's shortcuts, then click Next.
Offboard Diagnostic Information System Service
7-Zip
Accessories
Administrative Tools
Altova MissionKit 2010
Bluetooth
CamStudio
CDBurnerXP
Create shortcuts for all users
Don't create a Start Menu folder
install4j
< Back
Next >
Cancel

**Figure 3.11. Selecting the start menu folder**

To create a shortcut to **Offboard Diagnostic Information System Service** on the desktop for each user, tick the checkbox: **Create shortcuts for all users**. To make the shortcut on the desktop visible only to the user installing **Offboard Diagnostic Information System Service**, deselect the checkbox.

**Back:** Go back in the installation process one step.

**Continue:** The installation of **Offboard Diagnostic Information System Service** is continued. The copying and installation process starts.

**Cancel:** The installation is terminated.

The progress of the **copying and installation process** is displayed via a progress bar.

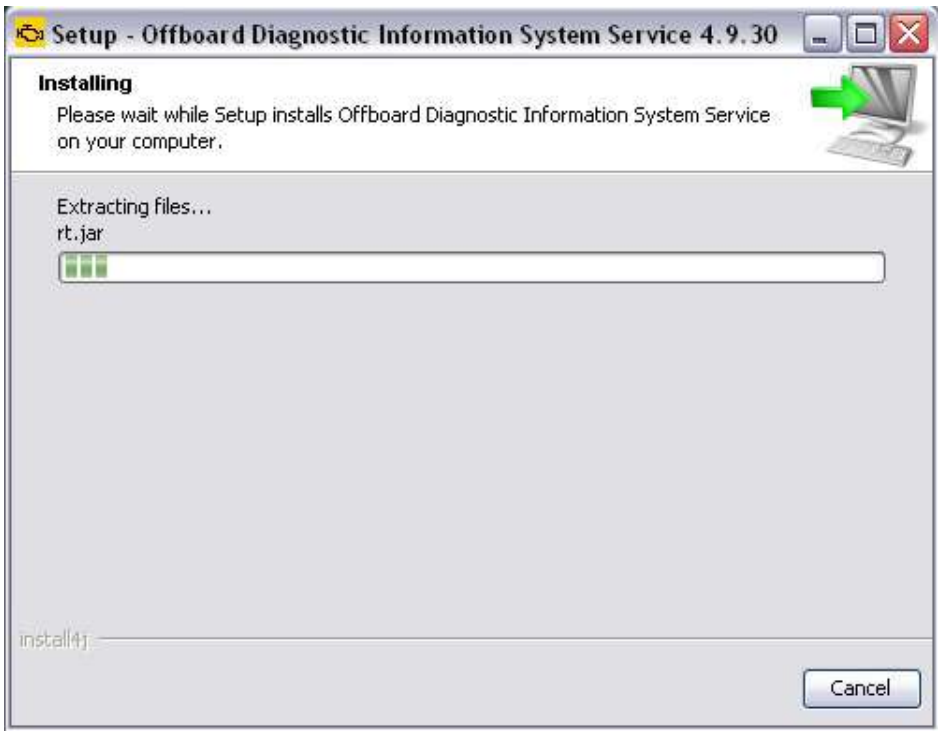



**Figure 3.12. Displaying the copying process**

**Cancel:** The installation is terminated.

**Note:**

Depending on the capacity of the processor, the installation process may take several minutes.

The progress of the installation of the diagnostic components PDU API and MCD server is displayed individually for each component.

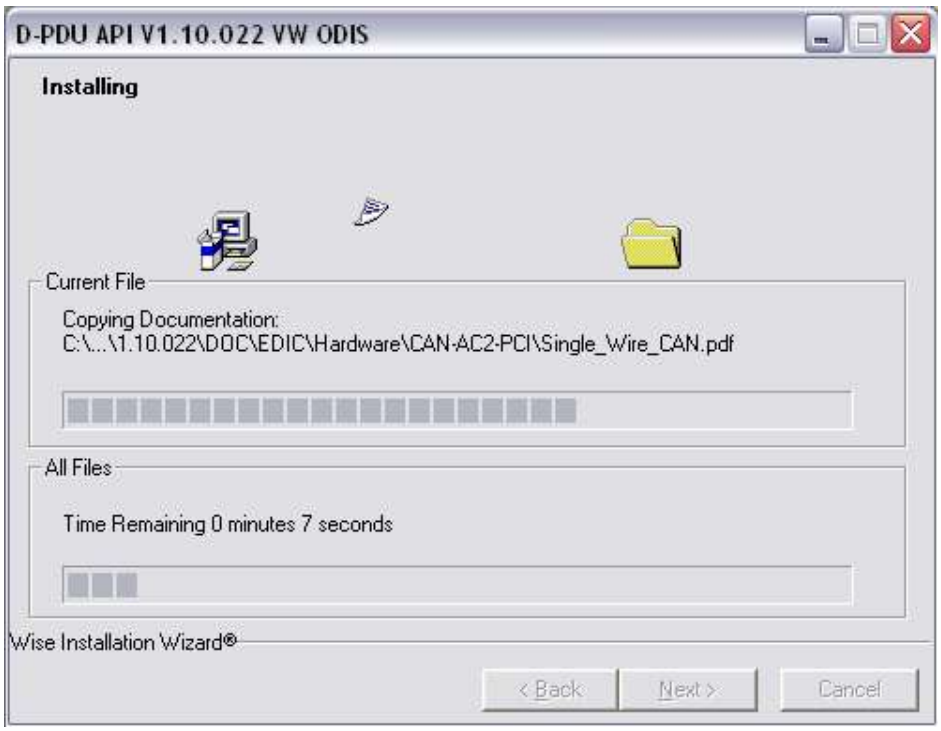



**Figure 3.13. Installing the PDU API**

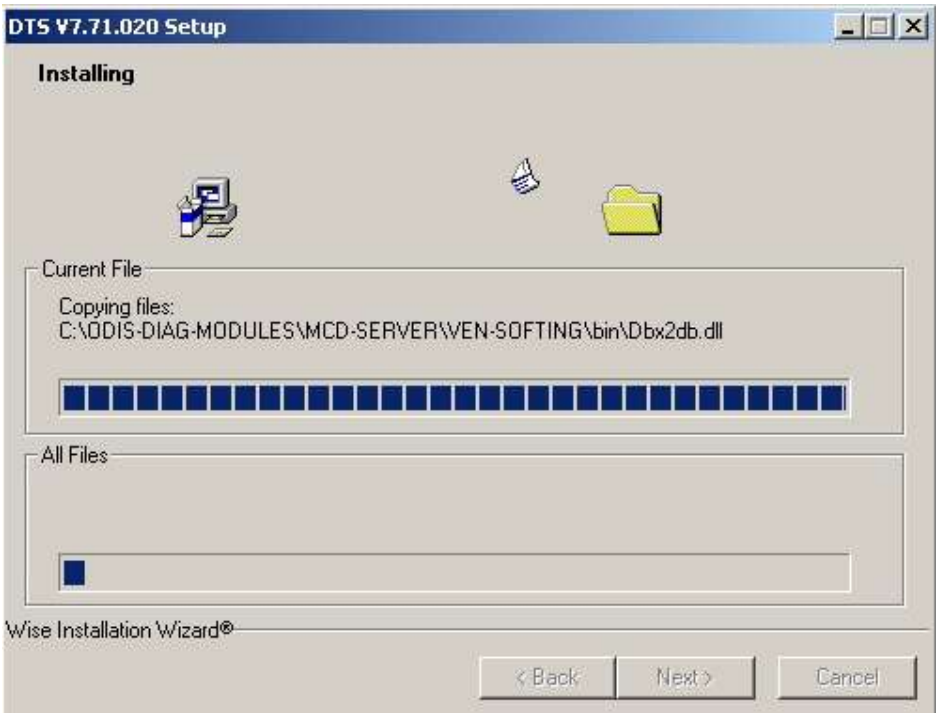



**Figure 3.14. Installing the MCD server**

These installation processes cannot be changed. The buttons are greyed out accordingly.

When the installation of all components is completed, the last view of the installation wizard appears.


Setup - Offboard Diagnostic Information System Service 4.9.30
Completing the Offboard Diagnostic Information System Service Setup Wizard
Setup has finished installing Offboard Diagnostic Information System Service on your computer. The application may be launched by selecting the installed icons.
Click Finish to exit Setup.
Finish

**Figure 3.15. Installation completed**

**Finish**: Click on this button to complete the installation of **Offboard Diagnostic Information System Service**.

**Offboard Diagnostic Information System Service** can now be started by double-clicking on the **Offboard Diagnostic Information System Service** shortcut on the desktop. **Offboard Diagnostic Information System Service** can also be started via the start menu: **Start\Programs\Offboard Diagnostic Information System Service**.

The installation of **Offboard Diagnostic Information System Service** is completed when the application is started for the first time. For this, the **Offboard Diagnostic Information System PostSetup** appears again.




**Figure 3.16. Starting the PostSetup**

The completion of the installation by the PostSetup works like a software update. It can be executed via the internet using the preset URL of the importer's mirror server. The correct URL, the user name and password are required for this. If the installation data for the PostSetup is available locally, e.g. on DVD, the installation can also be completed without internet access.

**URL:** Mirror server address (depends on the importer). This field is always on a red background. This colour indicates that the specified URL is correct.

**Select local directory:** Opens Windows Explorer, via which the directory with the PostSetup files is selected.

**User name:** User ID for access to the mirror server

**Password:** Password for access to the mirror server.

**Cancel:** PostSetup is cancelled.

 PostSetup is continued.




**Figure 3.17. Display of the PostSetup data**

Before the actual data installation is started, the **maximum download size** of the data to be installed and the **download time** for installation via internet according to the type of connection are displayed.

 This button can be used to navigate backwards step-by-step in the PostSetup.




**Figure 3.18. Installation of the PostSetup data**

The diagnostic data and vehicle projects of the brands entered in the licence certificate and the help files are installed according to the language selection made at the start of the installation. The corresponding data packages and the installation progress are displayed in the **Progress dialogue**.

When this installation has been completed successfully, you can use **Offboard Diagnostic Information System Service** for your work.

**Note:**

It is possible to cancel the installation of the language-dependent diagnostic data, vehicle projects and help files when **Offboard Diagnostic Information System Service** is started for the first time. However, in that case you cannot use the application for your work.

If shared **network drives** are to be configured for using several **Offboard Diagnostic Information System Service** test devices, observe the **Microsoft Windows documentation** for the configuration of the network drives.

The structure of the folders can be organised as one sees fit. The local path structure of **Offboard Diagnostic Information System Service** after automatic installation and the default folder names in the administration of **Offboard Diagnostic Information System Service** are a useful starting point.

**Reference**:

See also "Administration mode" chapter

**Note:**

If Internet Explorer, Version 6, is configured as the default browser, the following setting is required for communication with the Group systems to work correctly:

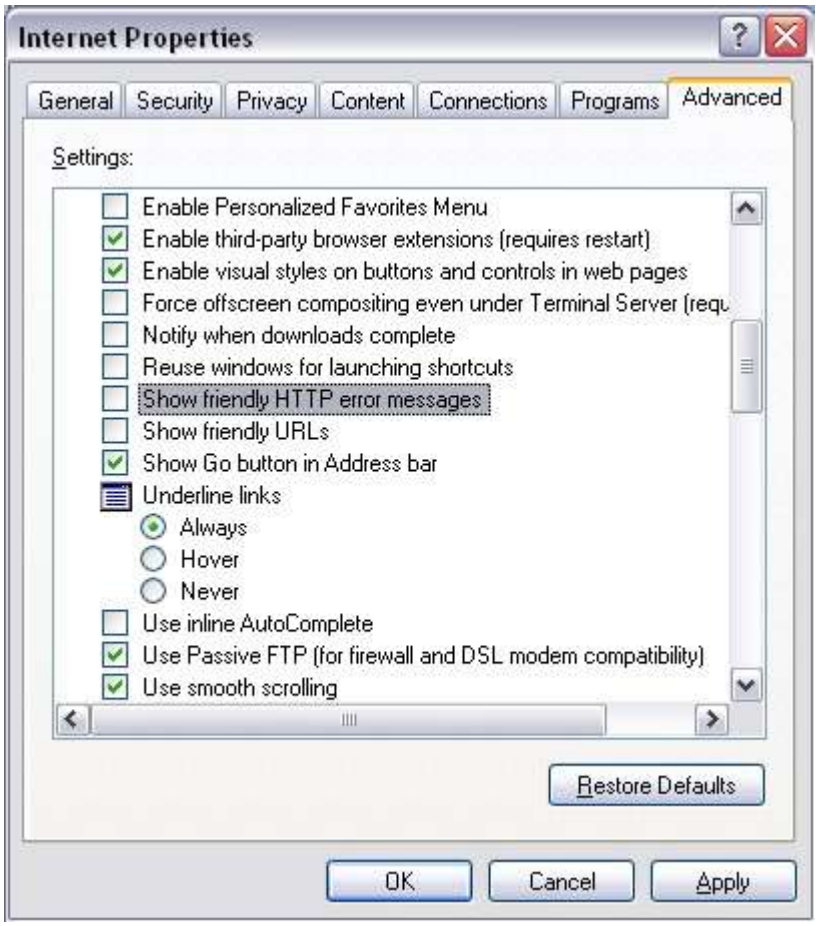



**Figure 3.19. Internet options for Internet Explorer 6**

On the "Advanced" tab of the browser's internet options, the tick needs to be removed from the "Display short Http error message" property.

**Note:**

If a firewall is activated while **Offboard Diagnostic Information System Service** is being installed, an error message may appear. Access to *OffboardDiagLauncher.exe* must not be blocked.

**Reference:**

See also chapter "Additional error messages"

# Chapter 4. Update

Regular software and data updates are available for **Offboard Diagnostic Information System Service**. The update cycle and login data required for automatic updates can be configured in **Admin** mode.

**Reference:**

See also Administration chapter - "General area" and "Connections area".

Each time the program is started, the **Offboard Diagnostic Information System Updater** searches for updates in the start configuration of **Offboard Diagnostic Information System Service**.

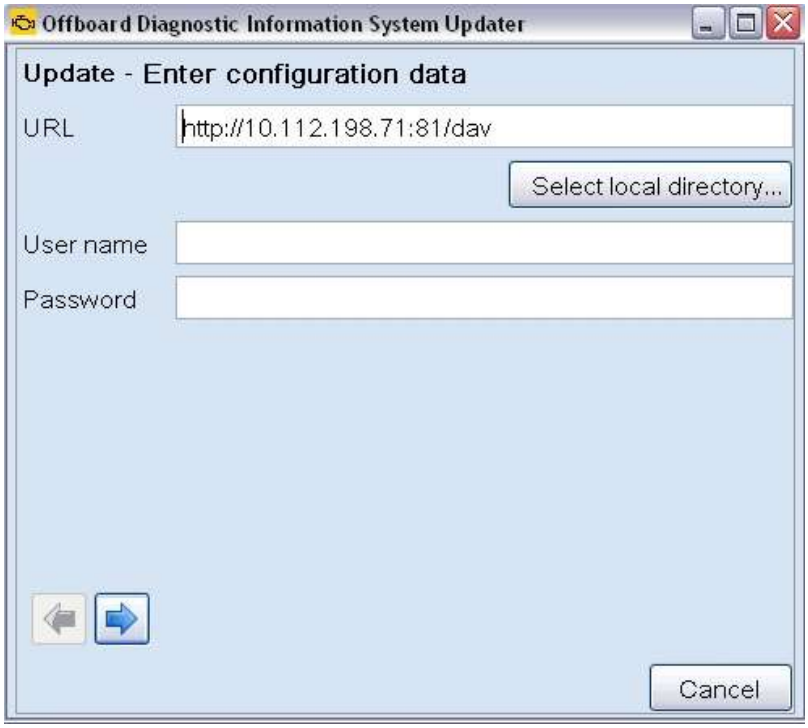



**Figure 4.1. Data update via network**

**URL**: The URL for the update server (mirror server 2) can be changed here for updates via the network. The URL default setting is applied from the admin area and may be changed there permanently.

**Select local directory:** If the update is installed via CD/DVD or a network drive, this button can be used to select the drive with the update CD/DVD inserted or the folder on the network drive. The user name and password are not required for an offline update.

**User name:** Enter the user name.

**Password:** Enter the password.

To access the update server, the local administrator needs to be consulted.

Click on **Continue** to start connecting.

**Cancel:** The update is cancelled.

An update may be imported online as well as offline.

**Note:**

If a firewall is active while an update is in progress, an error message may appear. Access to the application file *OffboardDiagLauncher.exe* must not be blocked.

**Reference:**

See also chapter "Additional error messages"

To perform an update of the operating system of the test device or laptop, **administration rights** are required.

A **progress dialogue** displays the progress of **connecting** to the update site.




**Figure 4.2. Connecting to update site**

**Cancel:** The update is cancelled.

The **Offboard Diagnostic Information System Updater** shows the size of the available updates and the corresponding estimated download times according to the type of network connection, as soon as a connection to the update site has been established.

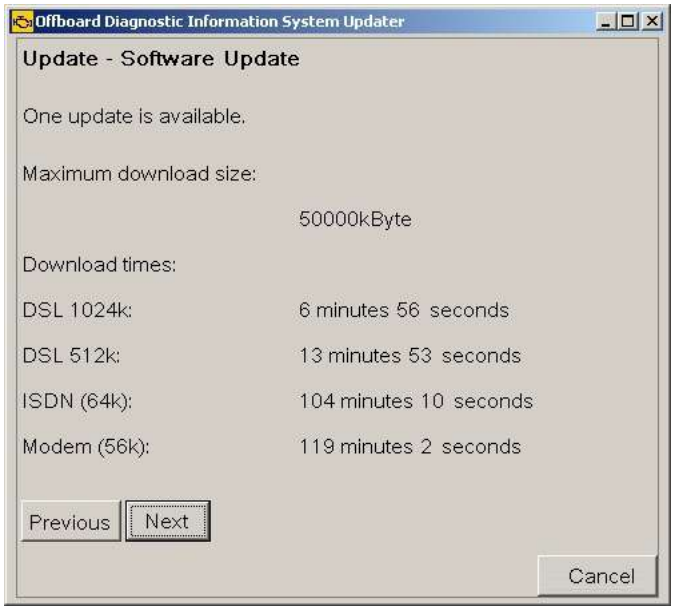



**Figure 4.3. Displaying available updates**

**Back**: **Offboard Diagnostic Information System Updater** goes back a step.

**Next**: An available program update is automatically installed. At this point, please follow the instructions.

**Cancel**: Installation of the update is cancelled.**Offboard Diagnostic Information System Service** is then started in the current version.

If no update data is available, Offboard Diagnostic Information System Service informs you of this with the following message.

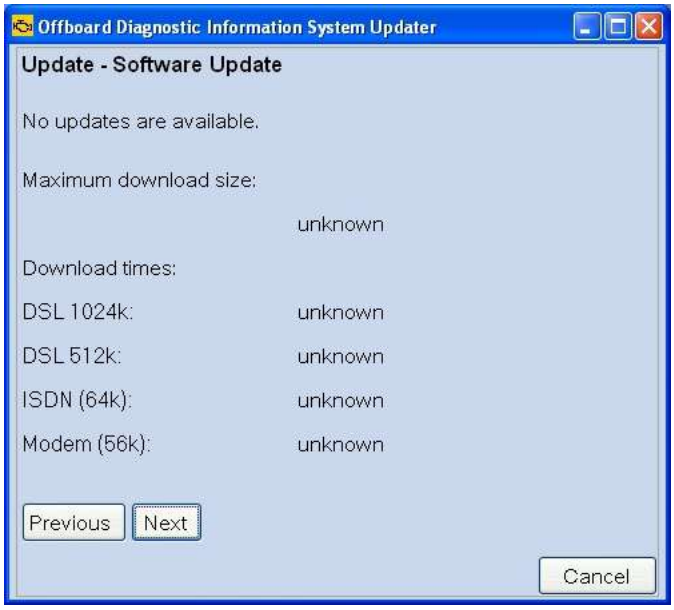



**Figure 4.4. No updates available**

**Back**: **Offboard Diagnostic Information System Updater** goes back a step.

**Next**: The **Offboard Diagnostic Information System Service** Updater is closed.

**Cancel**: Installation of the update is cancelled.**Offboard Diagnostic Information System Service** is then started in the current version.

If update data is available, there are updates for the following areas:

1) Individual program components of **Offboard Diagnostic Information System Service**, if they have been licensed.

2) Data processed by **Offboard Diagnostic Information System Service**, such as diagnostic data, test programs and similar.

3) Programs provided by third parties, such as MCD server or virtual keyboard.

The **progress dialogue** displays the installation progress for all components of the update.




**Figure 4.5. Displaying the progress of a data update**

**Cancel:** Installation of the data update is cancelled.

**Note**:

Depending on the data volume, the data update may take some time.

During the update of applications from third parties, individual installation routines may start with instructions that need to be followed.

If an **update cycle** was entered in **Admin** mode, a corresponding message is displayed at the configured time when closing or starting **Offboard Diagnostic Information System Service**.

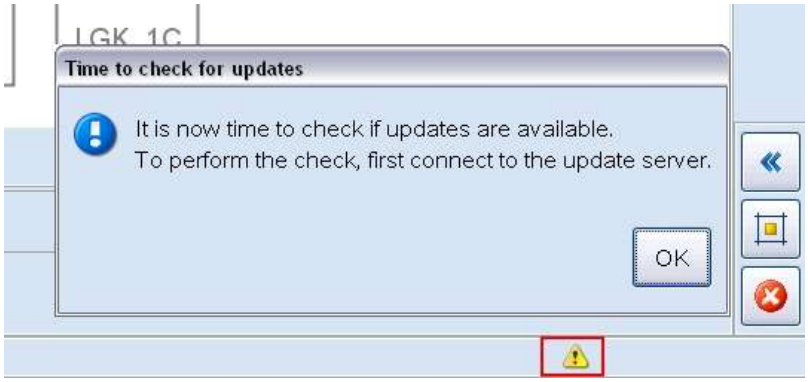

Time to check for updates
It is now time to check if updates are available.
To perform the check, first connect to the update server.
OK

**Figure 4.6. Message relating to an update when the preconfigured time has passed**

This symbol  is used to refer to a pending update. Click on the symbol to open the **Time to check for updates** message.

**OK**: Updates are searched for via the configured connection.

If updates are available, the system will inform you of this with the **Updates available** message.

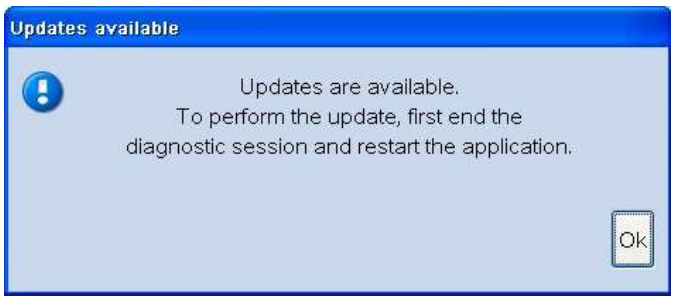



**Figure 4.7. Message relating to an update when data is available**

**OK:**Normally, you can continue to work. On closing **Offboard Diagnostic Information System Service**, the following message appears:

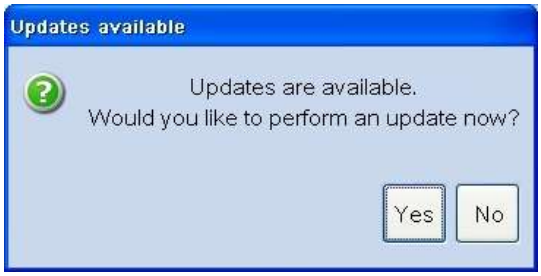



**Figure 4.8. Update message after exiting Offboard Diagnostic Information System Service**

**Yes:** The update is continued, as described above.

**No:** No update is initiated. This does not change the update cycle.

# Chapter 5. Application start/user interface

This chapter gives a brief introduction to the user interface of **Offboard Diagnostic System Information Service** and how to use it. For individual functions described here, there are references to other chapters of the manual if more detailed descriptions are available.

**Offboard Diagnostic Information System Service** is started after installing it via the Windows start menu:

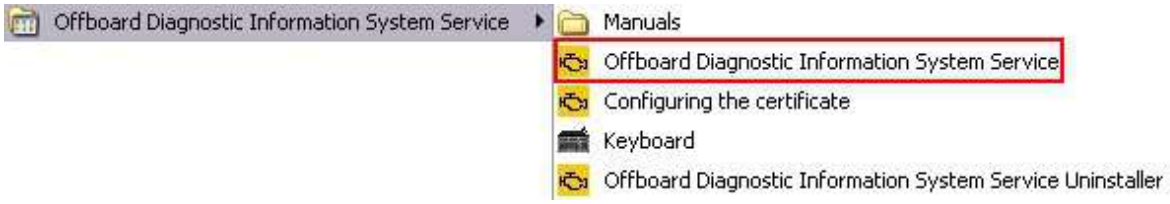



**Figure 5.1. Starting Offboard Diagnostic Information System Service**

The **virtual keyboard** can also be started using the Windows start menu under "Keyboard".

After completing the start procedure, the user interface is displayed in diagnostic mode.

In addition, a window appears with **warnings and notes** that must be observed.

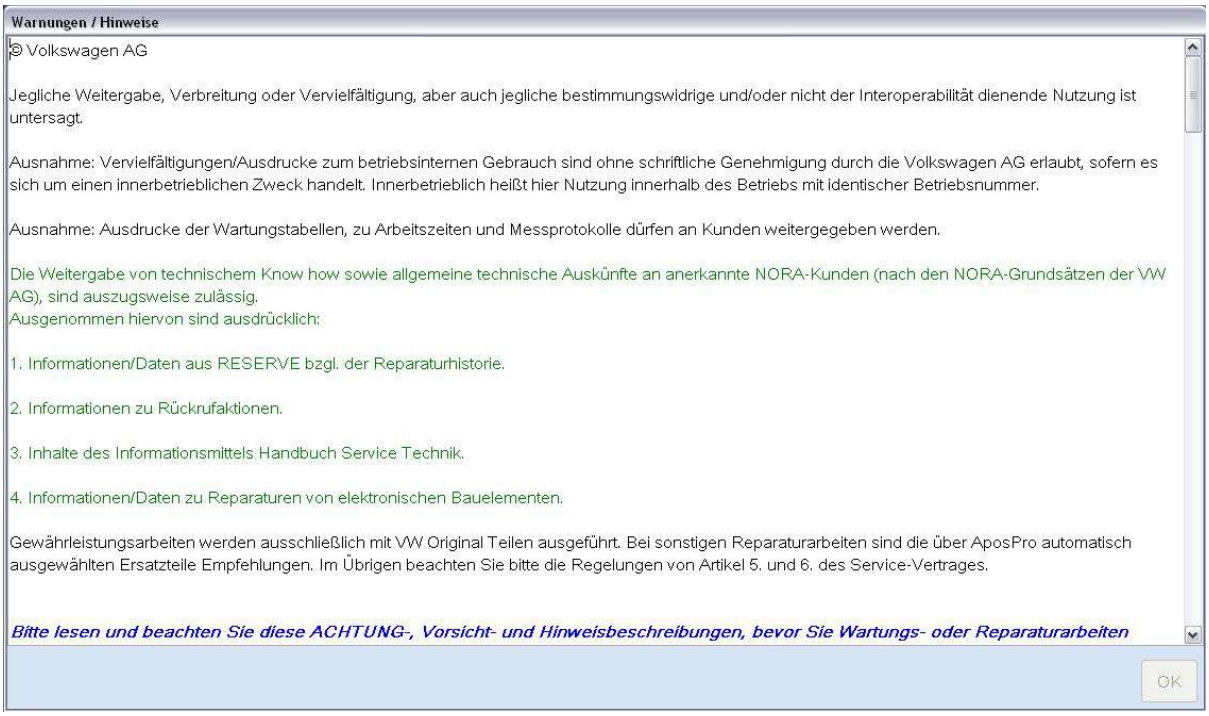

Warnungen / Hinweise
© Volkswagen AG
Jegliche Weitergabe, Verbreitung oder Vervielfältigung, aber auch jegliche bestimmungswidrige und/oder nicht der Interoperabilität dienende Nutzung ist untersagt.
Ausnahme: Vervielfältigungen/Ausdrucke zum betriebsinternen Gebrauch sind ohne schriftliche Genehmigung durch die Volkswagen AG erlaubt, sofern es sich um einen innerbetrieblichen Zweck handelt. Innerbetrieblich heißt hier Nutzung innerhalb des Betriebs mit identischer Betriebsnummer.
Ausnahme: Ausdrucke der Wartungstabellen, zu Arbeitszeiten und Messprotokolle dürfen an Kunden weitergegeben werden.
Die Weitergabe von technischem Know how sowie allgemeine technische Auskünfte an anerkannte NORA-Kunden (nach den NORA-Grundsätzen der VW AG), sind auszugsweise zulässig.
Ausgenommen hiervon sind ausdrücklich:
1. Informationen/Daten aus RESERVE bzgl. der Reparaturhistorie.
2. Informationen zu Rückrufaktionen.
3. Inhalte des Informationsmittels Handbuch Service Technik.
4. Informationen/Daten zu Reparaturen von elektronischen Bauelementen.
Gewährleistungsarbeiten werden ausschließlich mit VW Original Teilen ausgeführt. Bei sonstigen Reparaturarbeiten sind die über AposPro automatisch ausgewählten Ersatzteile Empfehlungen. Im Übrigen beachten Sie bitte die Regelungen von Artikel 5. und 6. des Service-Vertrages.
Bitte lesen und beachten Sie diese ACHTUNG-, Vorsicht- und Hinweisbeschreibungen, bevor Sie Wartungs- oder Reparaturarbeiten
OK

**Figure 5.2. Window with warnings/notes (part 1)**

**Note:**

The **OK** button for closing the window with warnings and notes is not active until the text has been scrolled down completely.

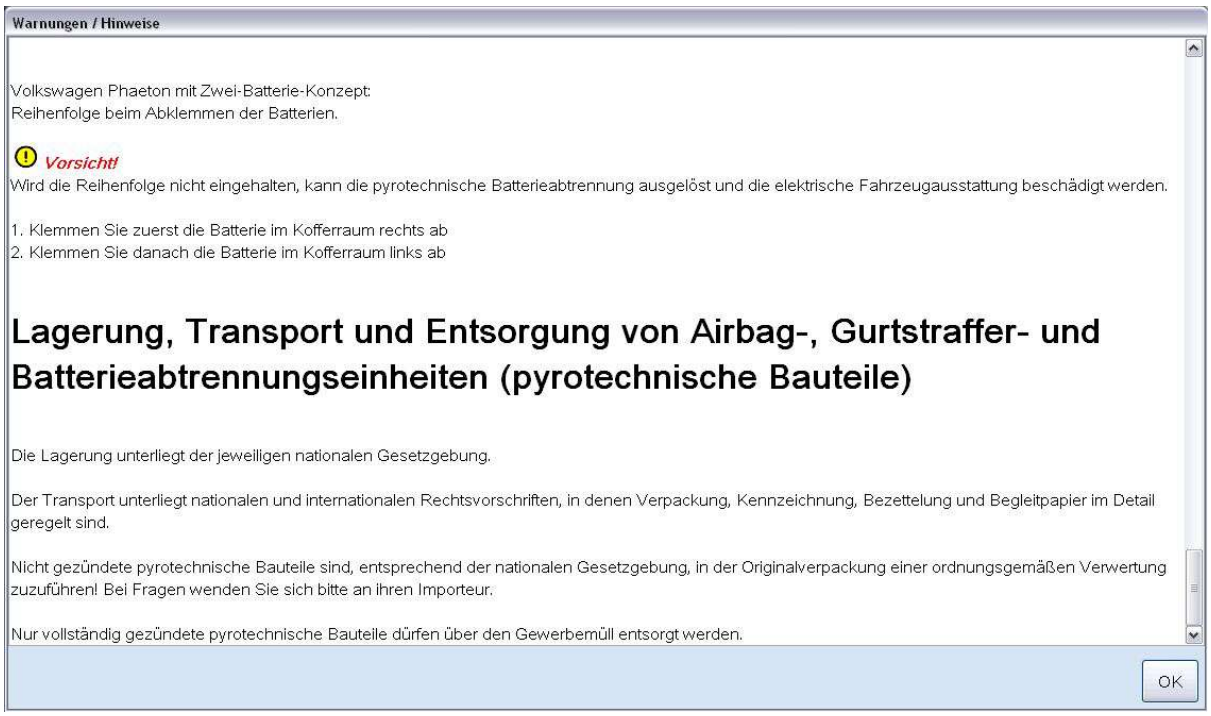

Warnungen / Hinweise
Volkswagen Phaeton mit Zwei-Batterie-Konzept:
Reihenfolge beim Abklemmen der Batterien.
Vorsicht!
Wird die Reihenfolge nicht eingehalten, kann die pyrotechnische Batterieabtrennung ausgelöst und die elektrische Fahrzeugausstattung beschädigt werden.
1. Klemmen Sie zuerst die Batterie im Kofferraum rechts ab
2. Klemmen Sie danach die Batterie im Kofferraum links ab
Lagerung, Transport und Entsorgung von Airbag-, Gurtstraffer- und Batterieabtrennungseinheiten (pyrotechnische Bauteile)
Die Lagerung unterliegt der jeweiligen nationalen Gesetzgebung.
Der Transport unterliegt nationalen und internationalen Rechtsvorschriften, in denen Verpackung, Kennzeichnung, Bezettelung und Begleitpapier im Detail geregelt sind.
Nicht gezündete pyrotechnische Bauteile sind, entsprechend der nationalen Gesetzgebung, in der Originalverpackung einer ordnungsgemäßen Verwertung zuzuführen! Bei Fragen wenden Sie sich bitte an ihren Importeur.
Nur vollständig gezündete pyrotechnische Bauteile dürfen über den Gewerbemüll entsorgt werden.
OK

**Figure 5.3. Window with warnings/notes (part 2)**

**OK:** The window is closed.

After closing this window, **Offboard Diagnostic Information System Service** is available for work.

⇨ **Reference**:

For more details, see "Additional functions/info" chapter

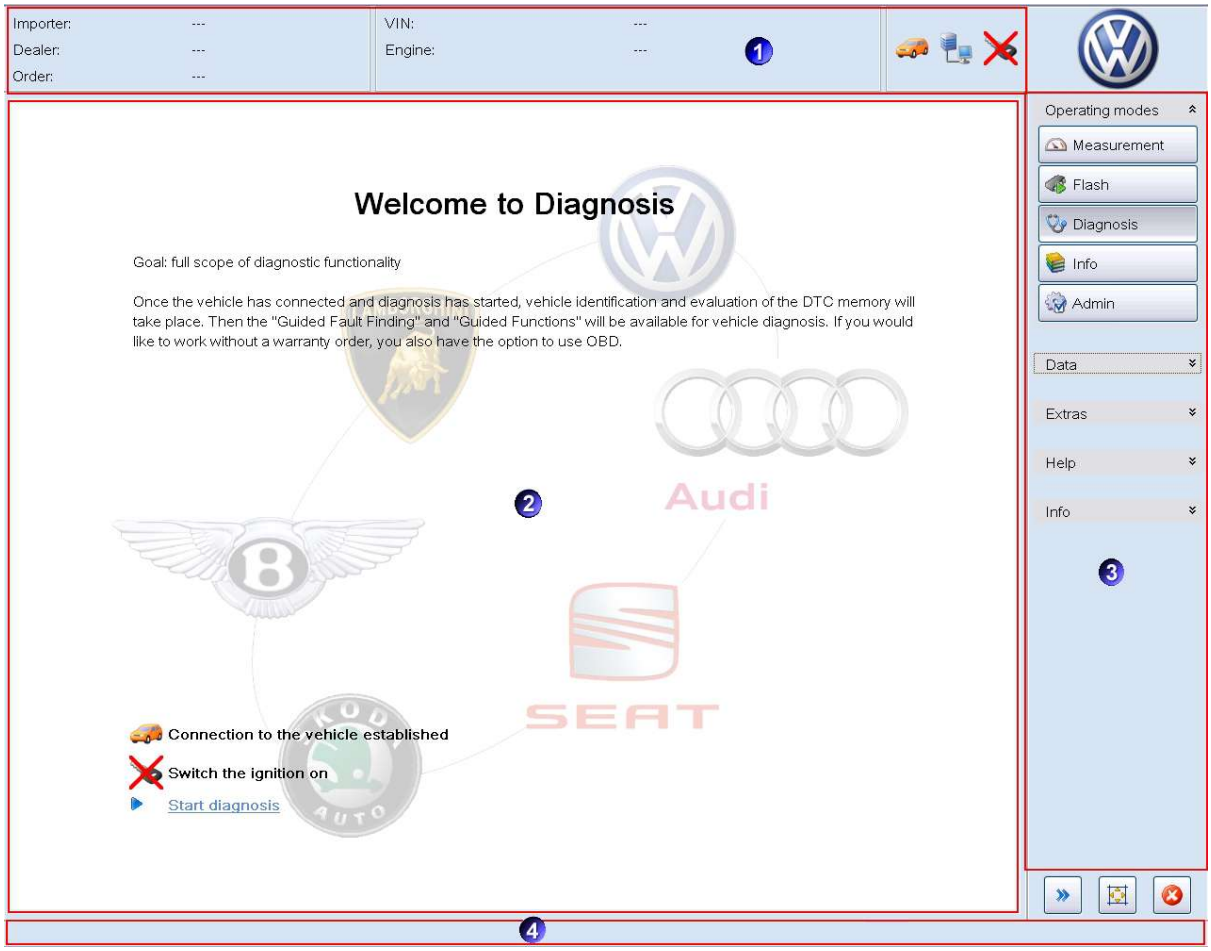



**Figure 5.4. The Offboard Diagnostic Information System Service user interface**

The **user interface** is divided into several areas:

1. **Information area**
2. **Client area**
3. **Modes and standard functions**
4. **Status area**

The individual areas have the following functions:

### 1 Information area

The information area contains general information on the licence, the order and the vehicle currently connected.

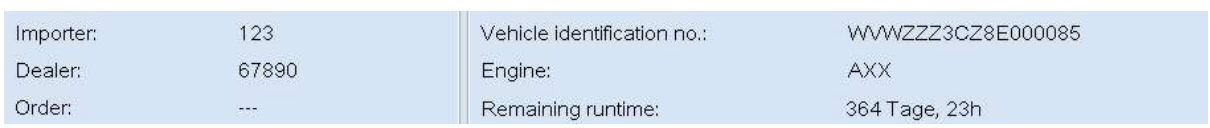



**Figure 5.5. The information area**

The area on the left shows the **importer number, dealership number** and **order number**.

The **vehicle ID** and the **engine code** are available in the centre.

For **unaffiliated market participants**, the **remaining time** of the diagnostic flat rate is displayed in the area in the centre, **after logging on to the Group systems**.

The area on the rights uses symbols to indicate whether:

- There is a diagnostic connection to the vehicle

   There is a diagnostic connection,

   There is no diagnostic connection,

   No diagnostic connection is identified.

- There is a network connection

   There is a network connection,

   There is no network connection.

- Whether the ignition is switched on

   The ignition is switched on,

   The ignition is switched off

   The ignition status is not identified.

**Note:**

Without a **network connection**, there is no connection to the Group systems. Functions depending on this, such as flashing and TPI, can then not be used.

## Client area

The **client area** is the main part of the application. All relevant data available during diagnosis and testing such as block diagrams, test plans and test results is displayed here. In addition, all file entries are made here, such as entering measured values in tests, selecting test steps and identifying individual control units.

Each mode has its own **tab bar** in the client area with various tabs. Depending on the type and scope of the session, individual tabs are enabled. Inactive tabs without content are greyed out.

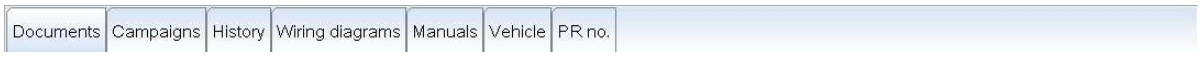
**Tab bar** for **Flash** mode:




**Tab bar** for **Diagnostic** mode:




**Tab bar** for **Info** mode:




**Tab bar** for **Admin** mode:




**Note:**

The **Actions** and **History** tabs are not available to the unaffiliated market participant on the tab bar in **Info** mode.

The Verification tab is only available if **Offboard Diagnostic Information System Service** was purchased in a product version with external verification.

### Modes and standard functions

To switch **modes** click on the desired button in the **Modes** menu.




**Figure 5.6. Modes menu**

The following modes are available:

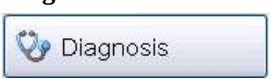
**Flash** mode:




**Test instruments** mode:




**Diagnostic** mode:



**Info** mode:




**Admin** mode:




The individual modes are described in the following chapters.

**Note:**

It is only possible to switch from diagnostic mode to flash mode or vice versa if the current diagnostic session or flash session was exited first.

**Reference**:

See also "Ending diagnosis"

See also "Data/diagnostic session"

The **Standard functions** menu contains functions that can always be accessed in **Offboard Diagnostic Information System Service** .

The following **standard functions** are available:




**Figure 5.7. Standard functions menus**

The following **Data** submenu can be used




**Figure 5.8. Data submenu**

- to print screenshots,
- to send, save, print and copy diagnostic protocols,
- to interrupt diagnostic sessions and resume them later on,
- to download hotfixes.

**Reference**:

See also chapter "Data"

**Note:**

The menus on the right side are opened and closed again by clicking on the Modes name row Modes.

The following **Extras** submenu includes the following:




**Figure 5.9. Extras submenu**

- The search function,
- The option of changing the diagnostic hardware (Vehicle Communication Interface VCI),
- Test drive mode.

**Reference:**

See also "Extras" chapter

Via the following **Help** submenu, the following functions are available:




**Figure 5.10. Help submenu**

- Online help,
- Feedback function for support queries.

**Reference:**

See also "Help" chapter

The following **Info** submenu includes the following:




**Figure 5.11. Info submenu**

- Information on new functions under New features,
- Information on software and data versions,
- Attention, caution and note information.

### 4 Status area

The **status area** shows the current progress and status.




**Figure 5.12. Status area example, test plan calculation**

For example, the progress of the calculation of the test plan during diagnostic start-up can be monitored.

The buttons for **adjusting the size of the client area** and for **exiting Offboard Diagnostic Information System Service** are available to the right of the status line.



 The **Hide** button is used to hide the **Modes and standard functions** area.

 The **Show** button can be used to show this area again.

 To hide the **Information area** and the **Modes and standard functions** area, click on the **Full screen** button.

 To show the **Information area** and the **Modes and standard functions** area again, click on this button.

 To exit the **Offboard Diagnostic Information System Service** program, click on this button. A confirmation prompt will then ask you if you really want to exit the program. If you confirm this with **Yes**, **Offboard Diagnostic Information System Service** is closed. If guided fault finding is active, it needs to be exited first. Otherwise you will be asked whether a support request is to be sent at the end of the diagnostic session.

⇨ Reference:

See also "Ending diagnosis"

chapter

# 5.1. Operation

**Offboard Diagnostic Information System Service** can be operated using the mouse and keyboard and/or using the touchscreen. Larger buttons make it easier to operate the program using the tester and the touchscreen.

## 5.1.1. Touchscreen

A touchscreen is a sensor screen available on some diagnostic units. Here you press the buttons with your fingers and / or a touch pen instead of using the mouse and keyboard.

**Note:**

The "right mouse button" is not used for the touchscreen. Menus and buttons that would otherwise be accessed using the right mouse button are displayed on the touchscreen by keeping the left mouse button pressed (for approx. 1 second).

## 5.1.2. Mouse and keyboard

The program can also be used with the mouse. To do this, move the cursor over the desired button and **left-click** for confirmation.

The menus and buttons of the context menu that would otherwise be accessed with the **right mouse button** are displayed by keeping the **left mouse button** pressed (for approx. 1 second).

The **keyboard** is required to enter values in test programs or guided functions if this is required by test steps. The VIN is also entered manually using the keyboard.

# Chapter 6. Diagnostic mode

This chapter deals with the scope of functions in diagnostic mode.

## 6.1. Diagnostic workflow

The typical workflow of a diagnostic session with **Offboard Diagnostic Information System Service** is described in the following chapters. A diagnostic session is characterised by the sections **Diagnostic start-up**, **Test plan and special functions**, **Using fault finding (GFF)** and **Ending diagnosis**.

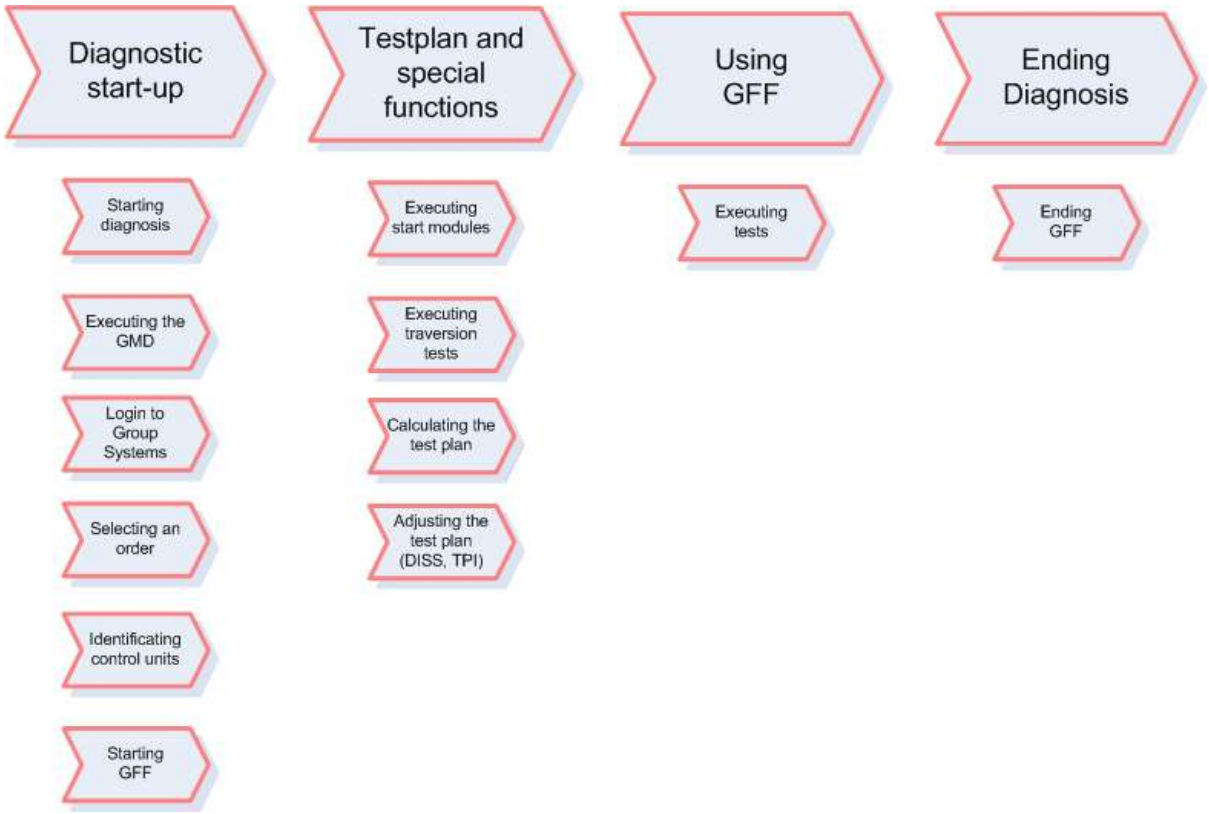



**Figure 6.1. Diagnostic start-up workflow**

In the **Diagnostic start-up** section, the vehicle is connected and identified (GMD), login to the Group systems is performed, a corresponding order is selected from **ElsaPro**, the vehicle's control units are identified and, finally, the start of GFF is initiated.

In the **Test plan and special functions** section, start modules and traversion tests are executed, the test plan is calculated automatically and adjusted manually via DISS and TPI, if necessary. At the end of this section, the test plan and special functions are available for guided fault finding.

The focus of the **Using GFF** section is on the execution of GFF tests.

In the **End diagnosis** section, a diagnostic session is completed by erasing the event memory, executing end modules and the option of giving feedback.

In addition to this typical course of a diagnostic session, in diagnostic mode it is also possible to subsequently mark control units as installed, change control unit variants, check individual control units using guided functions or perform a complete self-diagnosis.

# 6.2. Diagnostic start-up

In the **Diagnostic start-up** section, the vehicle is connected and identified (GMD), login to the Group systems is performed, a corresponding order is selected from **ElsaPro**, the vehicle's control units are identified and, finally, the start of GFF is initiated.

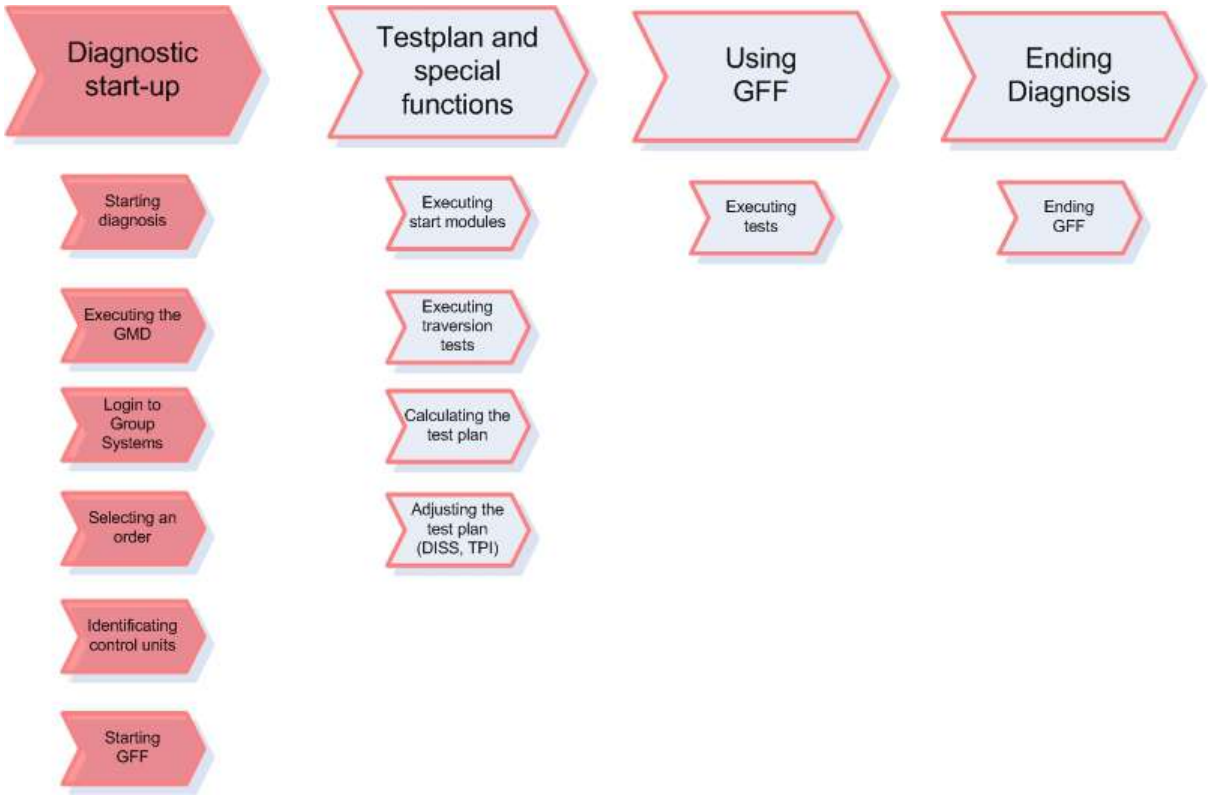



**Figure 6.2. Diagnostic start-up section**

# 6.2.1. Starting diagnosis

The **Start diagnosis** section describes the connection of the vehicle to **Offboard Diagnostic Information System Service**.

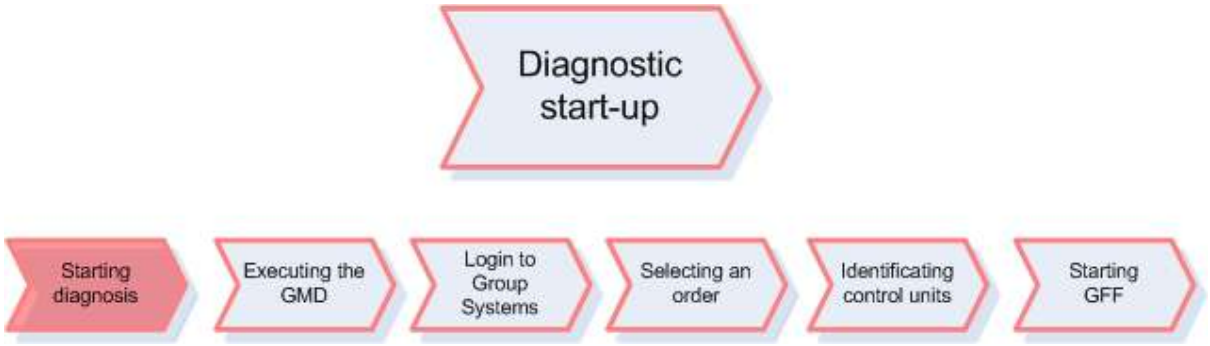



**Figure 6.3. Start diagnosis section**

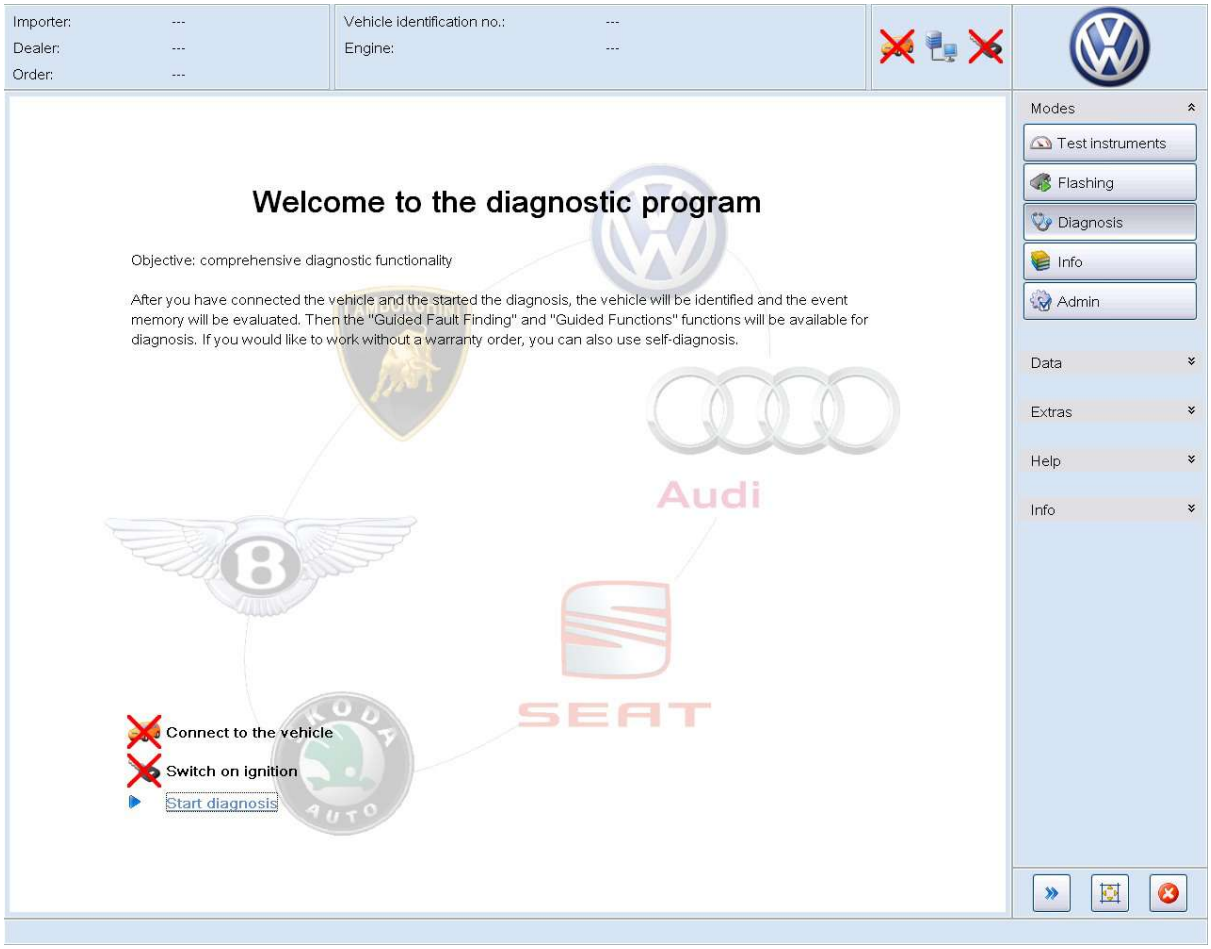



**Figure 6.4. Start-up window after starting the application**

After **Offboard Diagnostic Information System Service** has been started, the user interface is displayed in diagnostic mode without any vehicle data.

The diagnostic hardware is identified first. This process may take some minutes.

**Note**:


Lesebestätigung Funkverbindung
Es ist in Ihrem Land gesetzlich verboten eine Funkverbindung zur Fahrzeugdiagnose zu verwenden.
Möchten Sie fortfahren ?
Ja
Nein

**Figure 6.5. Bluetooth connection not permitted**

**Yes:** Bluetooth is used on your own responsibility.

**No:** A Bluetooth connection is not established.

The use of **Bluetooth** connections is **not permitted** in every country. If communication with the vehicle is established via Bluetooth connection, e.g. VAS5054, in one of these countries, **Offboard Diagnostic Information System Service** will inform you about this in a message.

**Reference:**

A detailed description of how to change the diagnostic hardware is available in the "Extras/VCI" chapter.

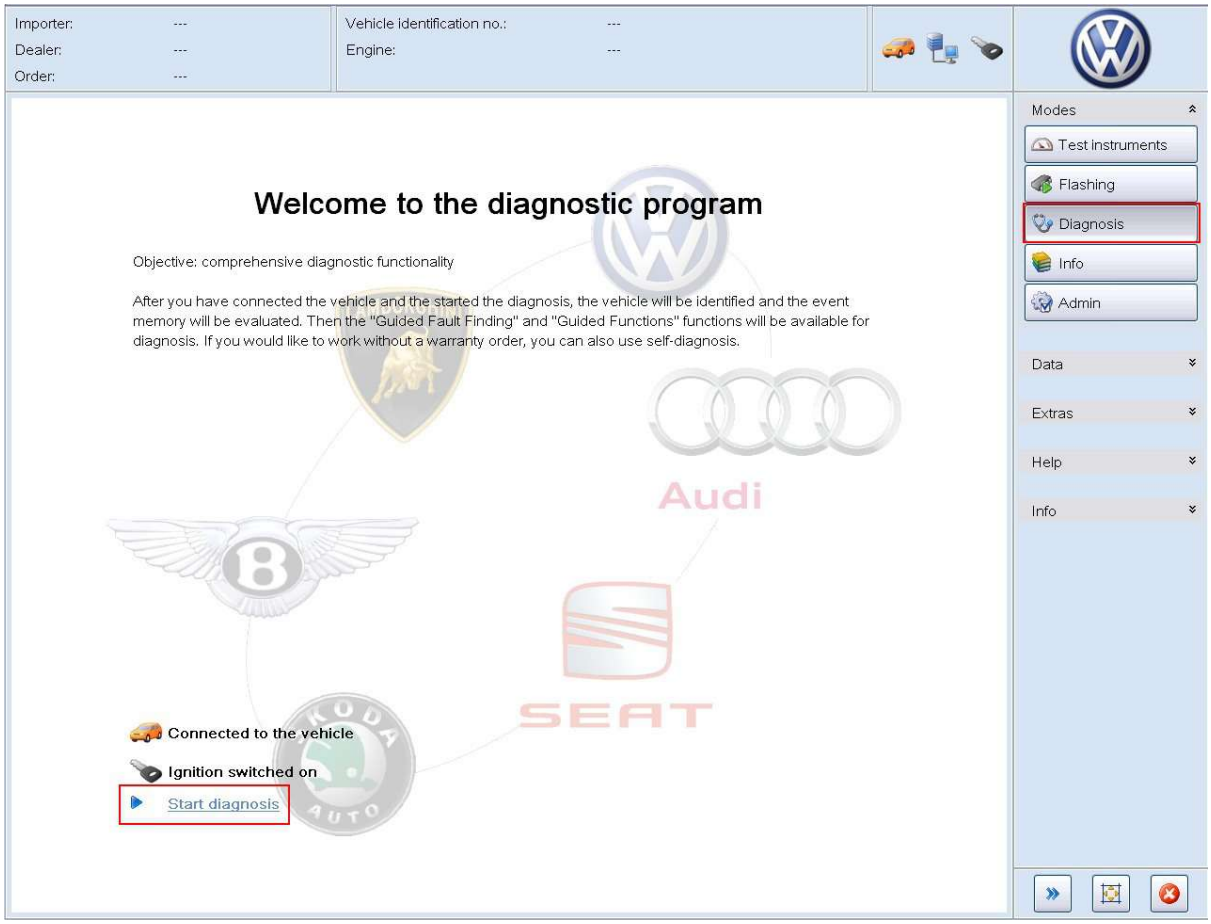

Importer: ---
Dealer: ---
Order: ---
Vehicle identification no.: ---
Engine: ---
Modes
Test instruments
Flashing
Diagnosis
Info
Admin
Data
Extras
Help
Info
Welcome to the diagnostic program
Objective: comprehensive diagnostic functionality
After you have connected the vehicle and the started the diagnosis, the vehicle will be identified and the event memory will be evaluated. Then the "Guided Fault Finding" and "Guided Functions" functions will be available for diagnosis. If you would like to work without a warranty order, you can also use self-diagnosis.
Audi
SEAT
Connected to the vehicle
Ignition switched on
Start diagnosis

**Figure 6.6. Start window for diagnostic start-up**

To start vehicle diagnosis, diagnostic mode must be activated. Whether the vehicle is connected and the ignition is switched on is shown in the start-up window.



Click on this button to start diagnostic start-up.

Diagnostic start-up runs on the **Control units** tab.



Once diagnostic start-up has been started, it can be cancelled by clicking on this button.



A diagnosis already performed can be ended using this button. **Offboard Diagnostic Information System Service** is not closed in this case.

**Note:**

**Offboard Diagnostic Information System Service** only provides the option of diagnosis and flashing for the **licensed brands**.

Which vehicle models of this brand are available depends on the type of dealer of a brand in the licence. All vehicle models are available to a licensed **authorised dealer**, dealer type = H.

Only EU vehicles are available to a licensed **unaffiliated market participant**, dealer type = U, of a brand.

It is possible to check the contents of the licence in the administration area:

See also "Administration/General/Licence info"

An **unaffiliated market participant must** log on to the Group systems online at the start of a diagnostic or flash session to enable diagnostic or flash start-up.

If login is cancelled, **Offboard Diagnostic Information System Service** returns to the start screen.

After login, **Offboard Diagnostic Information System Service** displays the remaining duration of validity of the diagnostic flat rate in days and hours in the **Information area** of the user interface under **Time remaining**.

In addition, the **Actions tab** and **History tab** are **not** available to the **unaffiliated market participant**.

During diagnostic start-up, **Offboard Diagnostic Information System Service** checks the **vehicle status** according to the battery and ignition status:

- Is the battery connected (terminal 30 - battery voltage)?
- Is a vehicle connected (terminal 30 - battery voltage)?
- Is this vehicle's ignition switched on (terminal 15 - ignition)?

If the battery is not connected, the **Battery not connected** dialogue appears.

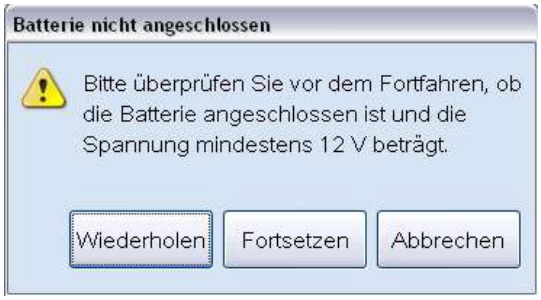

Batterie nicht angeschlossen
Bitte überprüfen Sie vor dem Fortfahren, ob die Batterie angeschlossen ist und die Spannung mindestens 12 V beträgt.
Wiederholen
Fortsetzen
Abbrechen

**Figure 6.7. No vehicle connected**

If no vehicle is connected, the **No vehicle connected** dialogue appears.

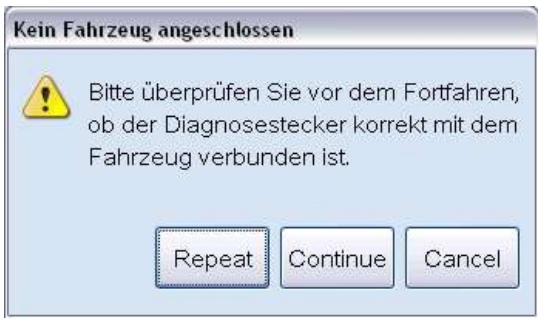

Kein Fahrzeug angeschlossen
Bitte überprüfen Sie vor dem Fortfahren, ob der Diagnosestecker korrekt mit dem Fahrzeug verbunden ist.
Repeat
Continue
Cancel

**Figure 6.8. No vehicle connected**

**Repeat**: The vehicle connection is re-checked.

**Continue**: The system resumes diagnostic start-up.

**Cancel:** Diagnostic start-up is cancelled.

If a vehicle is connected, the ignition status is checked without another message being displayed.

If it is still not possible to identify the vehicle despite correct diagnostic plug connection, the **Vehicle identification not possible** dialogue appears.

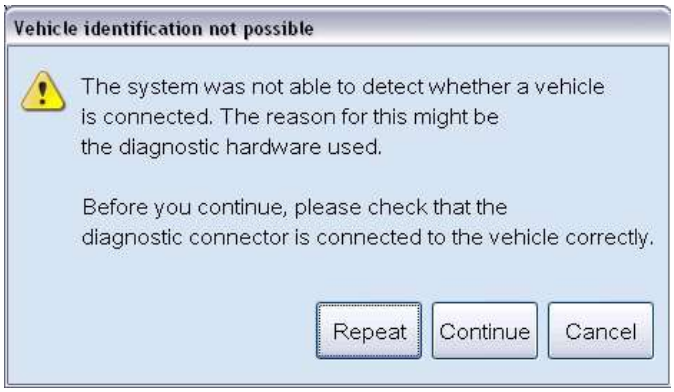

Vehicle identification not possible
The system was not able to detect whether a vehicle is connected. The reason for this might be the diagnostic hardware used.
Before you continue, please check that the diagnostic connector is connected to the vehicle correctly.
Repeat
Continue
Cancel

**Figure 6.9. Vehicle identification not possible**

**Repeat**: Vehicle identification is repeated.

**Continue:** The system resumes diagnostic start-up.

**Cancel:** Diagnostic start-up is cancelled.

Diagnostic start-up is automatically resumed without a message if the ignition is identified as switched on on the vehicle.

If the ignition is switched off, the **Ignition is switched off** dialogue appears.

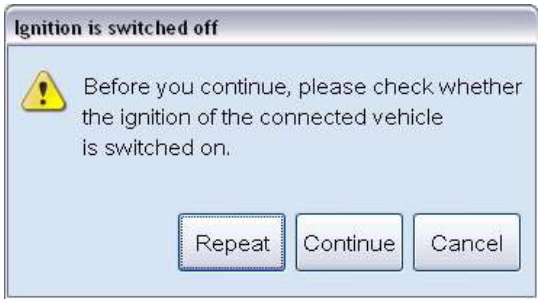

Ignition is switched off
Before you continue, please check whether the ignition of the connected vehicle is switched on.
Repeat
Continue
Cancel

**Figure 6.10. Ignition is switched off**

**Repeat:** The ignition is re-checked.

**Continue**: The system resumes diagnostic start-up.

**Cancel:** Diagnostic start-up is cancelled.

If the ignition status is not identified, the **Ignition status cannot be identified** dialogue appears.

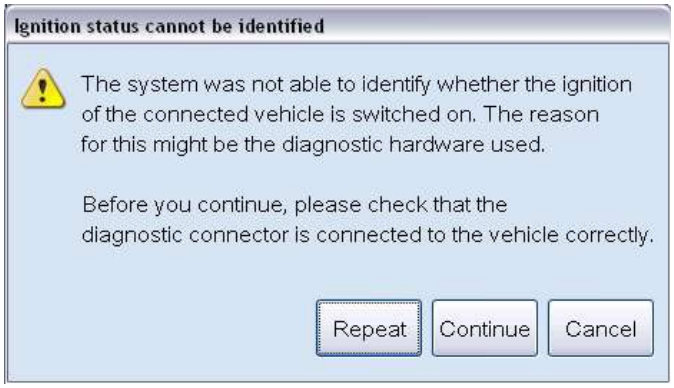

Ignition status cannot be identified
The system was not able to identify whether the ignition of the connected vehicle is switched on. The reason for this might be the diagnostic hardware used.
Before you continue, please check that the diagnostic connector is connected to the vehicle correctly.
Repeat
Continue
Cancel

**Figure 6.11. Ignition status cannot be identified**

**Repeat**: The ignition status is re-checked.

**Continue:** The system resumes diagnostic start-up.

**Cancel**: Diagnostic start-up is cancelled.

**Note**:

The status of battery, ignition and vehicle identification is checked during the following activities:

- Diagnostic start-up
- Reading the event memory of a control unit
- Reading the event memories of all control units
- Manual identification of a control unit
- Diagnostic exit

**Note:**

Diagnostic start-up may take several minutes.

**Note**:

**Offboard Diagnostic Information System Service** cannot be closed while the control unit list is being created.

The current progress of diagnostic start-up is shown at the bottom right of the user interface.




**Figure 6.12. Status area example, determining the VIN**

## 6.2.2. Basic characteristics dialogue (GMD)

The next section describes the identification of a vehicle according to its basic characteristics.

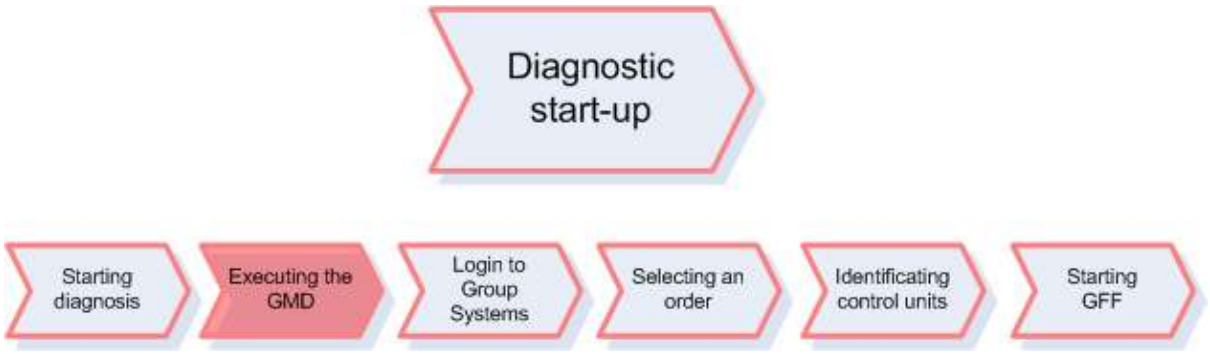



**Figure 6.13. GMD execution section**

The main element is the **Basic vehicle characteristics (GMD)** dialogue.

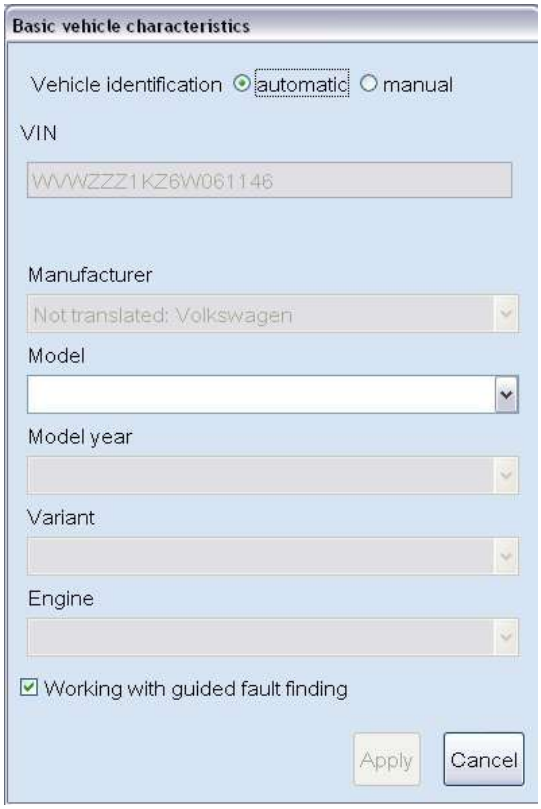



**Figure 6.14. Dialogue for selecting the basic vehicle characteristics**

If the ignition status is OK, the **vehicle identification number** (VIN) is read out of the vehicle and the **Basic vehicle characteristics** dialogue appears for selecting the basic vehicle characteristics.

The **VIN** can be corrected manually, if required, by switching the **vehicle identification** from automatic to manual. A detailed description of how to switch between automatic and manual is given below.

**Cancel:** Vehicle identification, and thus diagnostic start-up, is cancelled.

Whether guided fault finding is to be used during a diagnostic session or not is also decided using the Basic Characteristics dialogue.

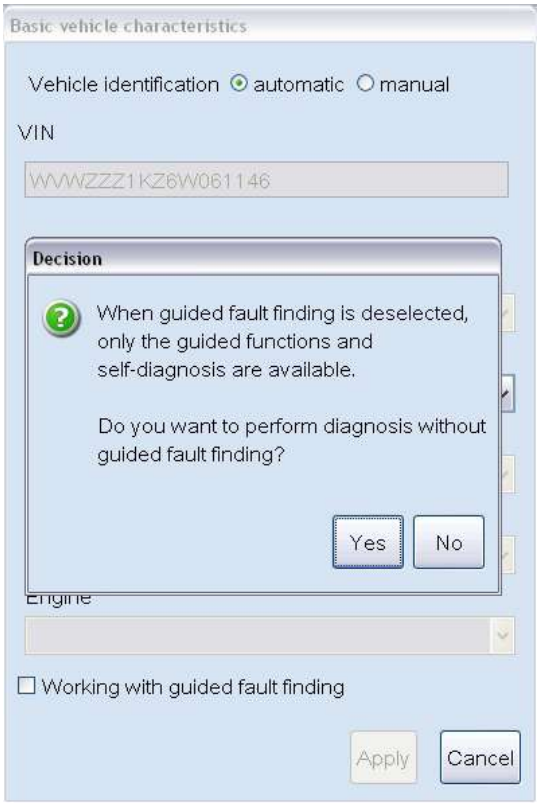



**Figure 6.15. Query for guided fault finding**

With every diagnostic start-up, **Work with guided fault finding** is automatically set by default in the **Basic vehicle characteristics** dialogue. If this option is deselected a warning is displayed with information about the consequences.

Only **Self-diagnosis** and **Guided functions** are available.

**Yes:** The diagnostic session is resumed without guided fault finding. In this case, work can only be continued without an order.

**No:** Diagnosis is resumed using guided fault finding.

**⇨ Reference:**

For more information on self-diagnosis, see chapter "Self-diagnosis".

**Vehicle identification** for determining the GFF diagnostic data in the Basic Vehicle Characteristics dialogue can be performed **automatically** or **manually**. Basic characteristics that are not determined clearly, need to be identified manually.

If an error occurs during automatic identification, a message is displayed with the request for manual identification of the vehicle.




**Figure 6.16. Error during automatic identification**

**OK:** Identification mode is switched to manual.

Basically, there are two possible reasons why automatic identification failed:

- An error occurred while reading the VIN, e.g. due to a faulty control unit.
- An error occurred while determining the diagnostic data corresponding to the VIN. The data pool is outdated or incorrect.

If an error occurs during automatic identification, you have the option of switching between automatic mode and manual mode.

When **switching from automatic mode to manual mode**, all previously determined basic characteristics are retained but can be changed. However, if basic characteristics are changed, all previously selected characteristics will expire. When **switching from manual mode to automatic mode**, all basic characteristics entered manually as valid are retained. That means the validity of manually entered characteristics is automatically checked and adjusted, if necessary. For example, an invalid VIN is replaced by the VIN automatically read.

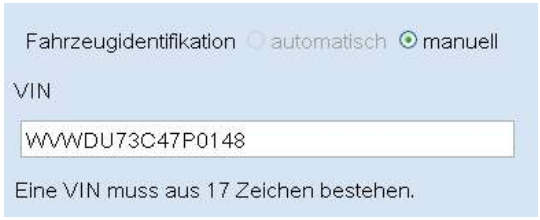



**Figure 6.17. Entering the VIN manually**

In **manual mode**, the plausibility of the entered VIN is checked, e.g. for its correct length (17 characters). There is no other technical check of the VIN. The manually entered VIN must be plausible for manual identification of the vehicle to be continued. Otherwise, there are no restrictions and dependencies in terms of the selection of the vehicle characteristics provided.

**Note:**

If a plausible but technically incorrect VIN is entered, **Offboard Diagnostic Information System Service** might not provide purposeful tests for GFF due to missing requirements. The manual input of the VIN should therefore be performed carefully.

In **automatic mode**, it is no longer possible to change the vehicle identification number and the clearly determined basic characteristics.

Vehicle identification is continued after determining the VIN.

There are several pop-up menus in the **Basic vehicle characteristics** dialogue that allow you to choose from several proposals, if available.




Select the vehicle manufacturer in the **Manufacturer** pop-up menu.



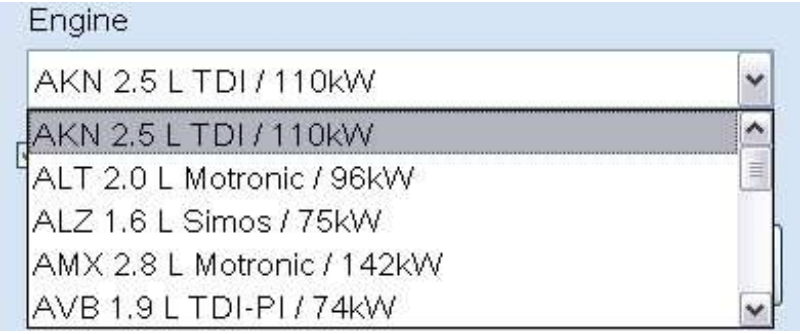

The models for the manufacturer selected above are now shown in the **Model** pop-up menu.




After you have selected the model, select the model year for the selected vehicle in the **Model year** pop-up menu.




Once the model year has been selected, specify the model type in the **Model type** pop-up menu (e.g. saloon, estate, etc.).


Engine
AKN 2.5 L TDI / 110kW
AKN 2.5 L TDI / 110kW
ALT 2.0 L Motronic / 96kW
ALZ 1.6 L Simos / 75kW
AMX 2.8 L Motronic / 142kW
AVB 1.9 L TDI-PI / 74kW

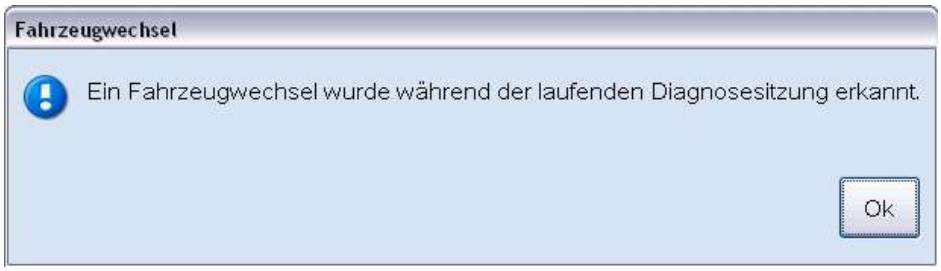
Finally, select the vehicle engine in the **Engine** pop-up menu.

**Note:**

The selection of the basic characteristics from the pop-up menus of GMD for **unaffiliated market participants** is limited to**EU5 vehicles**.

**Note:**

If the vehicle is changed during a diagnostic session, **Offboard Diagnostic Information System Service** re-reads the VIN and indicates the change of vehicle.




Every change of vehicle is entered in the diagnostic protocol.

**Note:**

The individual pop-up menus will not be active until a selection has been made in the pop-up menu above.

Click on **Apply** to accept the basic vehicle characteristics. The vehicle has been identified.

## 6.2.3. Login to Group systems

The next step after identifying the vehicle is **login to the Group systems**.

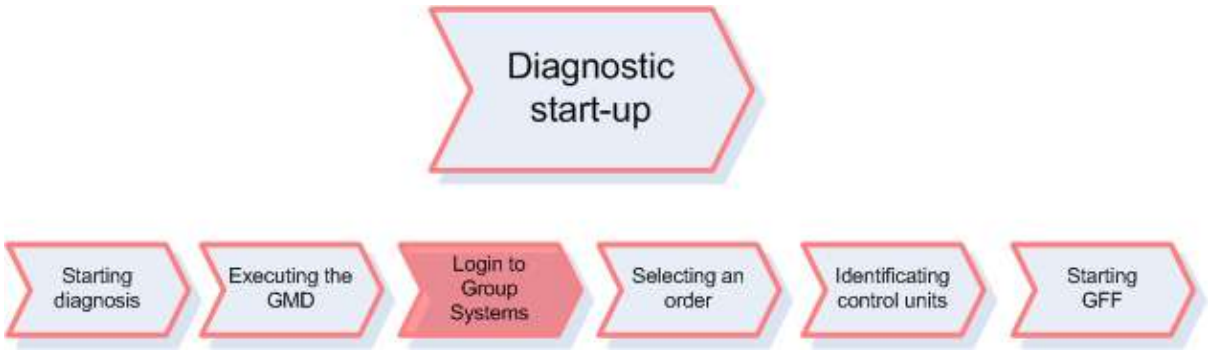



**Figure 6.18. Login to Group systems section**

To login, **Offboard Diagnostic Information System Service** opens a login window.




**Figure 6.19. Login window to the Group systems**

Login takes place once per session. The **global user ID** and the **password** for access to the Group systems are required for login.

**Apply:** The login data is sent to the Group systems.

**Cancel:** The login data is discarded. Authorised dealers may repeat login at all times.

 This button is available in all views of **Offboard Diagnostic Information System Service** that obtain data from Group systems. It can be used to repeat login at all times.

After login, access to services such as ElsaPro, CarPort, DISS etc. will be possible in the subsequent course of the diagnostic session.

**Note:**

An **unaffiliated market participant must** login to the Group systems online at the start of a diagnostic or flash session to enable diagnostic or flash start-up.

If login is cancelled, **Offboard Diagnostic Information System Service** returns to the start screen.

After login, **Offboard Diagnostic Information System Service** displays the remaining duration of validity of the diagnostic flat rate in days and hours in the **Information area** of the user interface under **Time remaining**.

In addition, the **orders** and **vehicle history** are **not** available to the **unaffiliated market participant**.

## 6.2.4. Selecting an order

After login to the Group systems, an order is selected for the diagnostic session. It is also possible to work without an order, which is decided in this section.

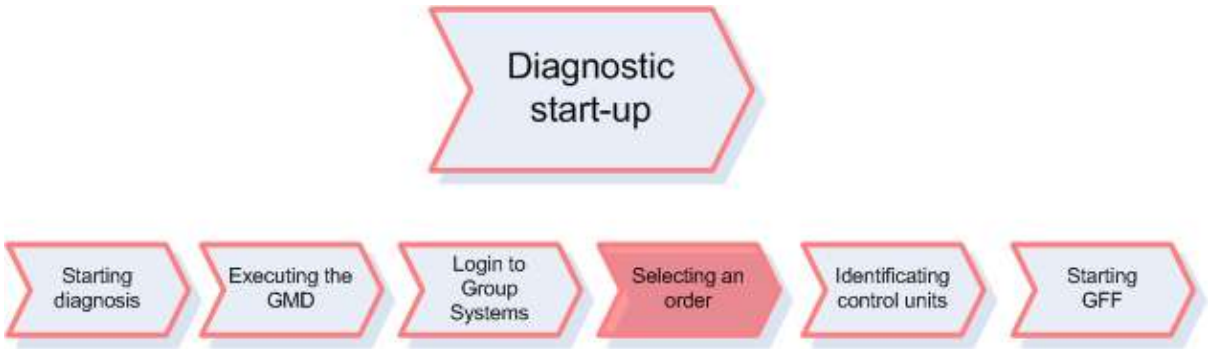



**Figure 6.20. Select order section - Diagnostic start-up**

The same procedure is used to start up a flash session in **Flash** mode.

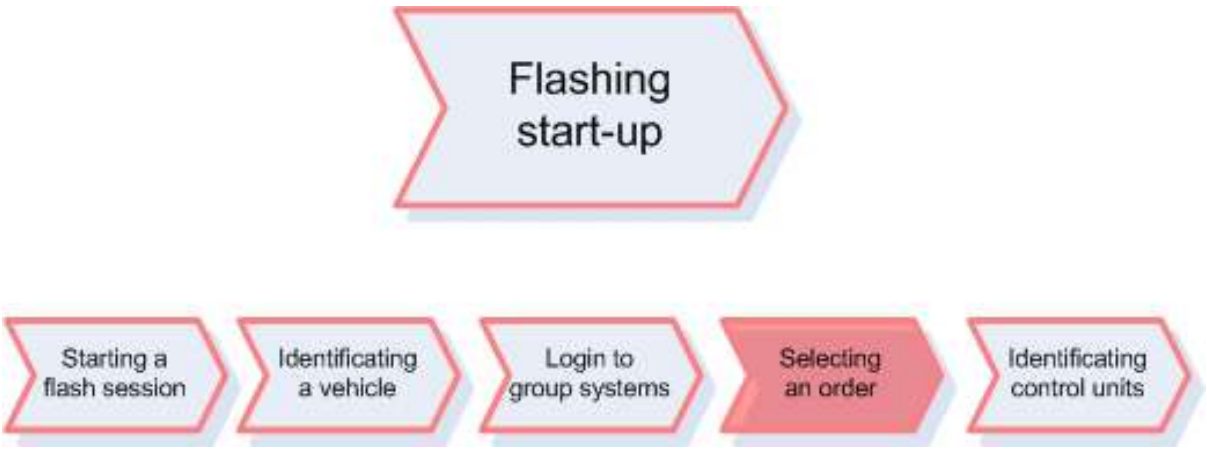



**Figure 6.21. Select order section - Flash start-up**

During flash start-up, after login to the Group systems, the order selection is opened on the **Orders** tab. The order selection process is identical in both modes.

**Reference:**

Selecting orders during flash start-up is also described in the chapter: "Flash / Order selection mode".

The view switches to the **Orders** tab after Group system login.

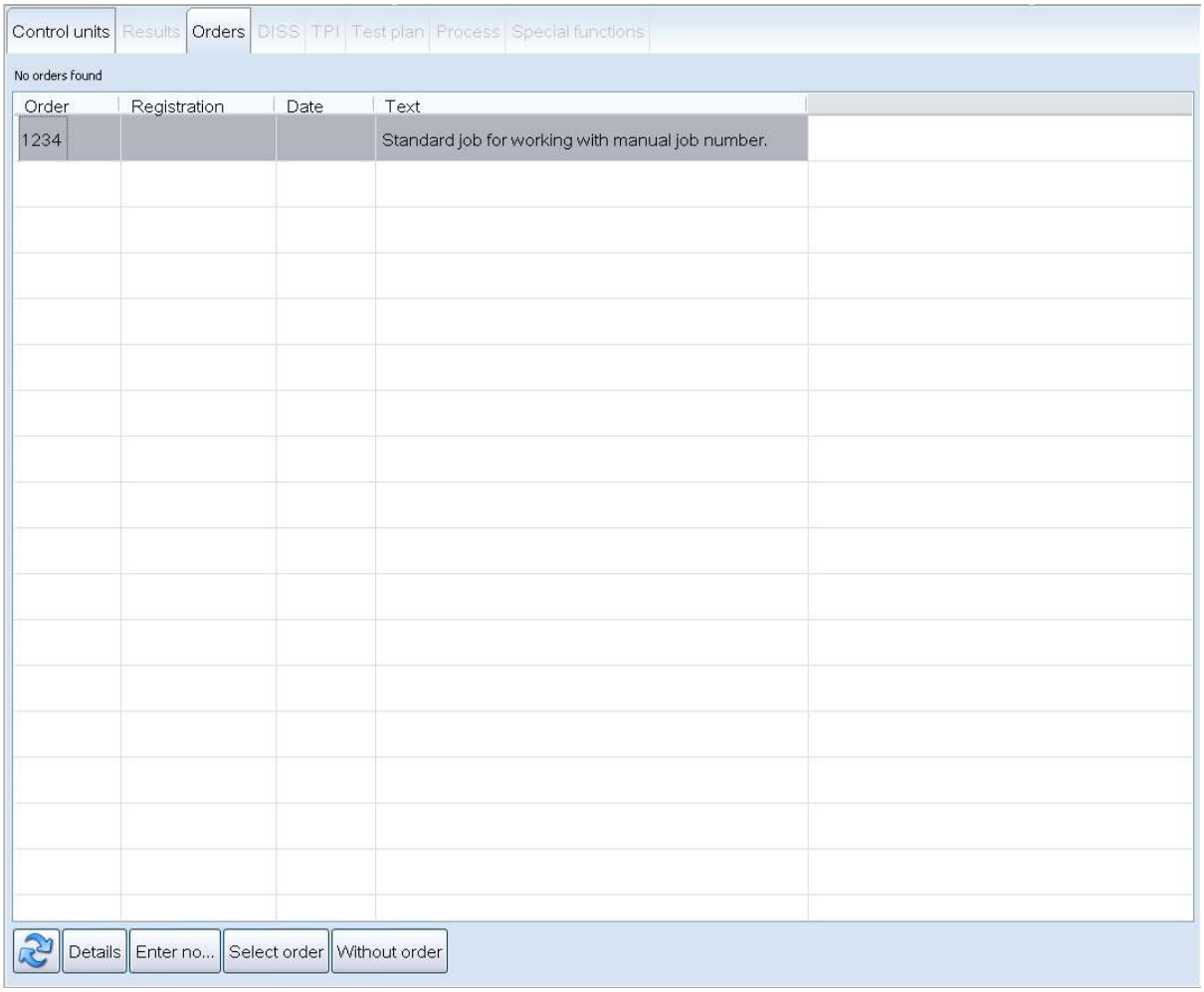



**Figure 6.22. Order view during diagnostic start-up**

**Offboard Diagnostic Information System Service** lists all orders available for the identified vehicle on the **Orders** tab.

The order number is displayed under **Order**, the current status in the SCP process under **SCP status**, and the vehicle's **licence plate number**, the **date** of the order and a descriptive **text** on the order are displayed in the order list.

The meaning of the **SCP status** numbers is listed in the following table.

| SCP status no. | Description |
|---|---|
| 1 | Scheduling appointment |
| 2 | Preparing for appointment |
| 3 | Vehicle reception |
| 4 | Work processes |
| 5 | Quality control |
| 6 | Vehicle return |
| 7 | Follow-up |
| 8 | Completed |

**Table 6.1. Meaning of the SCP status numbers**

**Offboard Diagnostic Information System Service** checks whether there is an online connection to the Group systems to be able to load order and vehicle data from **ElsaPro**.

The configuration of the web service for access to **ElsaPro** is described here:

⇨ **Reference:**

See also "ElsaPro connections"

Normally, login to the Group systems during diagnostic start-up is successful. If not or if the online connection was interrupted, the following error message is displayed.




**Figure 6.23. Login to Group systems not possible**

It is possible to repeat login and correct the login data, if necessary.

**Apply:** Login is repeated.

**Cancel:** Login is cancelled. As a result, no data from the Group systems is available, such as orders from **ElsaPro**.

---

**Note:**

The button can be used to reload order data from ElsaPro. Authorised dealers can also log on to the Group systems here. This button is available in all views of **Offboard Diagnostic Information System Service** that obtain data from Group systems.

**Reference:**

See "Info mode" chapter

---

If there is a connection to the Group systems, **Offboard Diagnostic Information System Service** lists the orders available in **ElsaPro**.

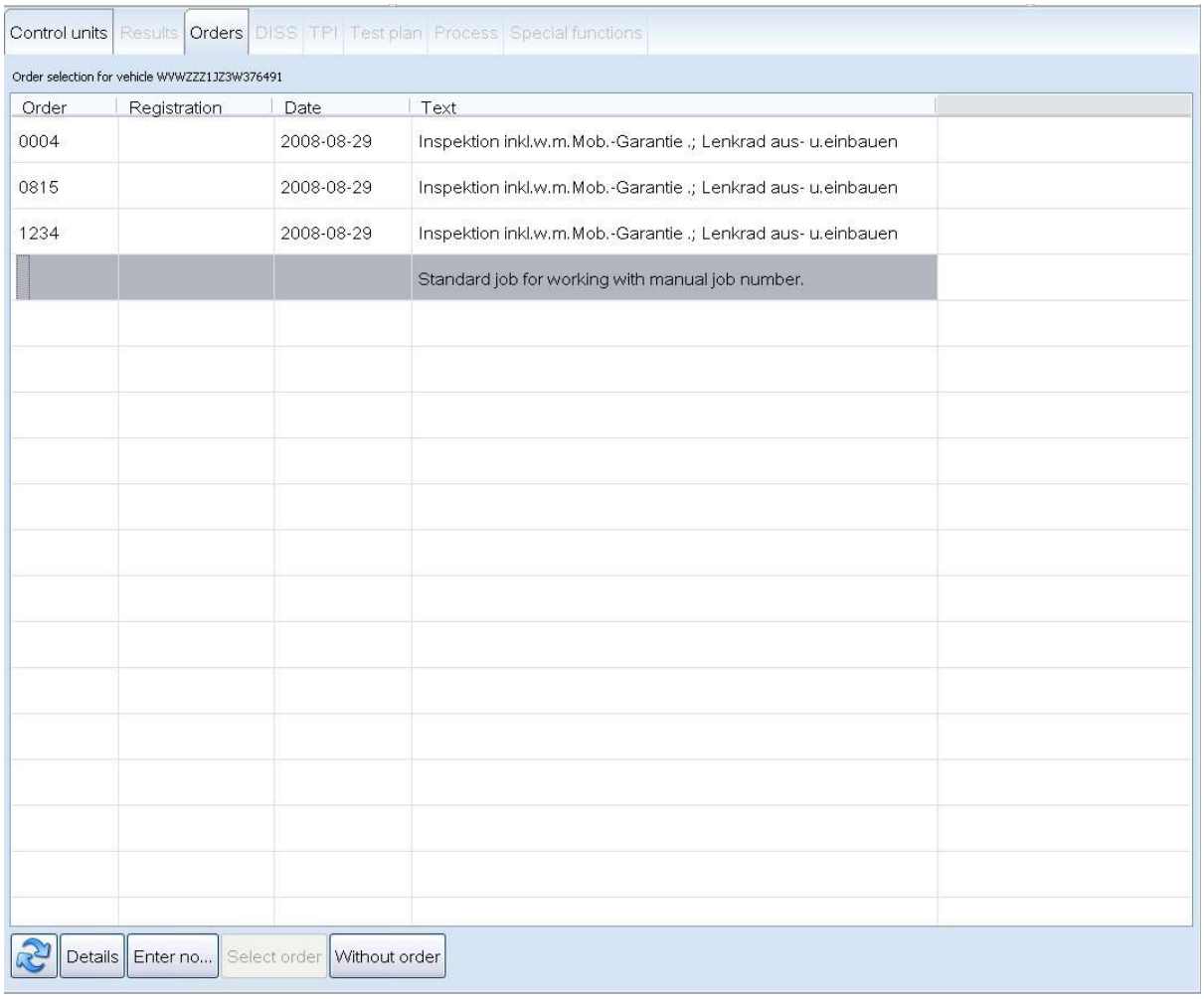



**Figure 6.24. Order list view**

To display order details, click on the desired order.

**Details:** Click on this button to display the order details.

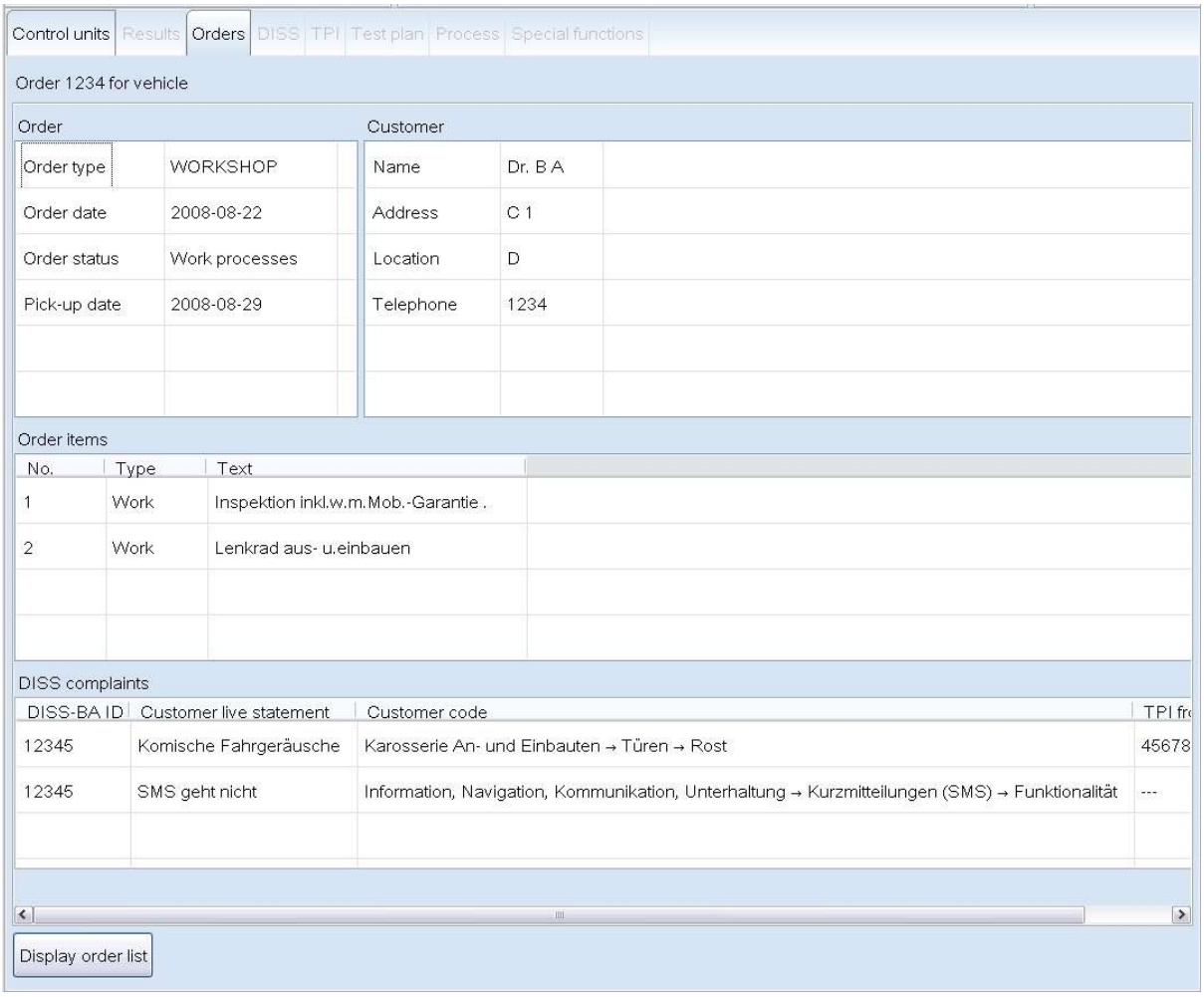



**Figure 6.25. Order detail view**

In the **Order detail view**, *order* such as **order type**, **order date**, **order status** and **collection data**, *customer* such as **name**, **address**, **city** and **telephone**, *order items* with information on **item number**, **type** and **text** and *DISS complaints* with **DISS BA ID**, **customer live statement**, **customer code** and **TPI from DISS** are displayed in three subdivided areas.

**⇨ Reference:**

For DISS complaints, see also "DISS/TPI" chapter.

**Display order list**: To return to the order list from the detail view, click on this button.

An order for the diagnostic session can be selected from this list or an order created with manual order number.

A marked order with order number can be selected from **ElsaPro** by clicking on the **Select order** button.

Without a connection to the Group systems, only a **standard order is created for working with manual order number**. It is possible to assign a number to this order and select it for the diagnostic session.

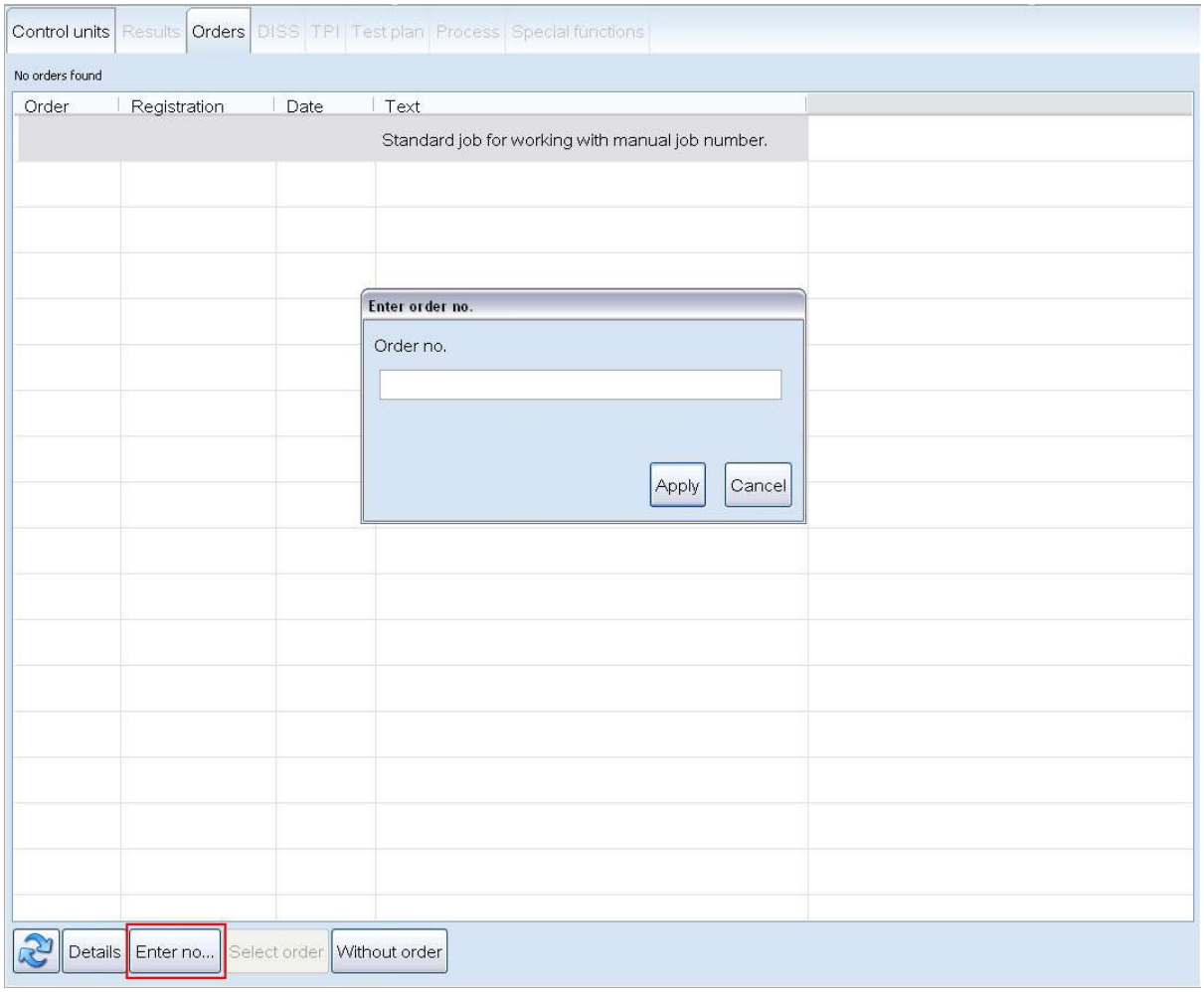



**Figure 6.26. Entering the order number**

If a manual order number is to be assigned, the **Standard order for working with manual order number** needs to be selected from the list by left-clicking on it.

**Enter no...**: Click on this button to open a window for entering the order number, which may consist of a combination of letters and numbers as desired.

**Apply:** The order number is used.

**Cancel:** No order number is assigned.

**Without order**: Diagnostic start-up is continued without an order.

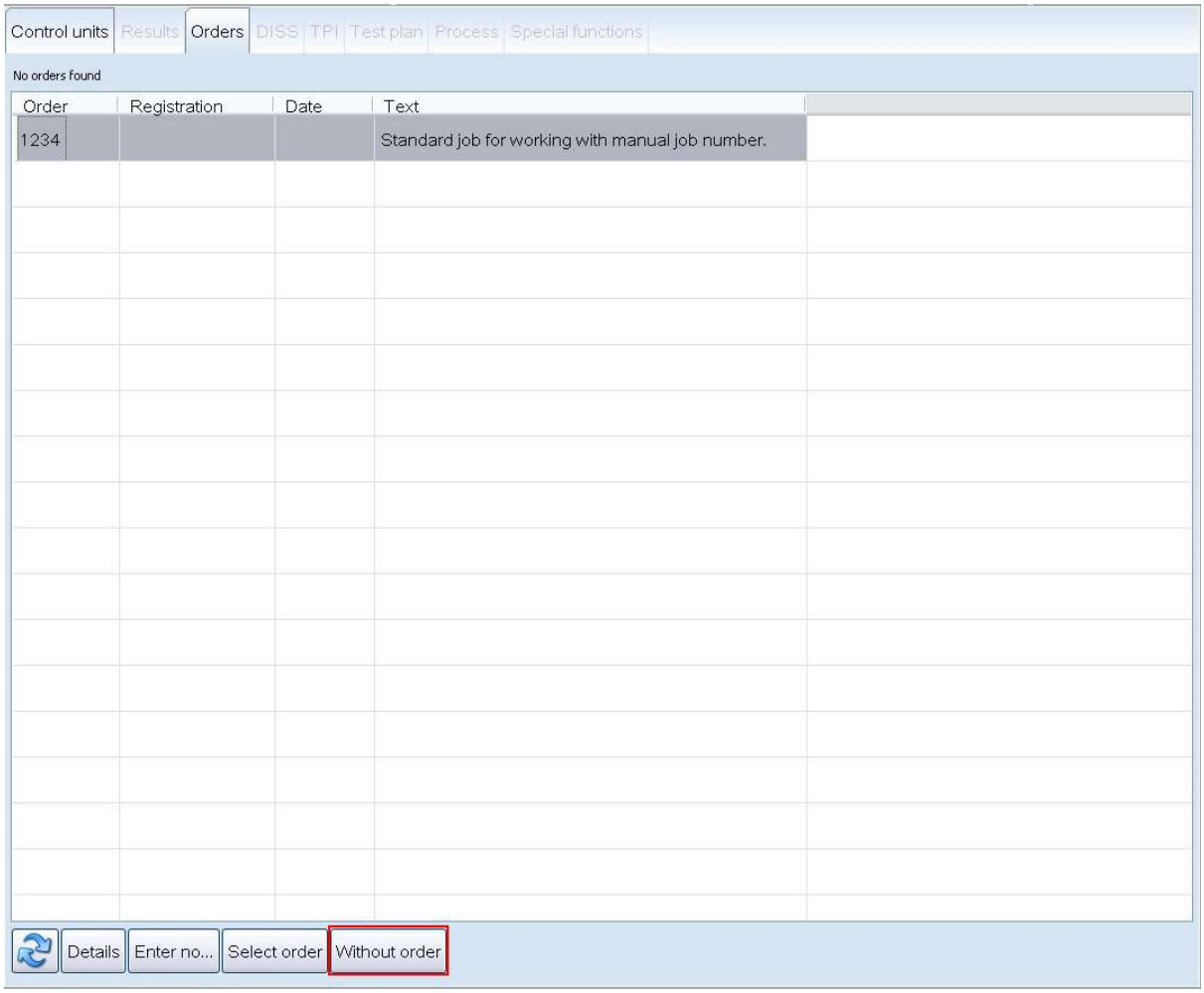



**Figure 6.27. Selecting "Work without order"**

To do this, click on the **Without order** button.

**Note:**

Only orders with order numbers can be selected for a diagnostic session. The selected order is valid for the entire diagnostic session and cannot be changed.

An order is essential for warranty invoicing.

The order number is added to the diagnostic protocol.

Self-diagnosis is not available for a diagnostic session with order.

The selection of the order is thus completed.

# 6.2.5. Control unit identification

After selecting the order, the identification of the control units starts. To do this, **Offboard Diagnostic Information System Service** evaluates the gateway installation list first.

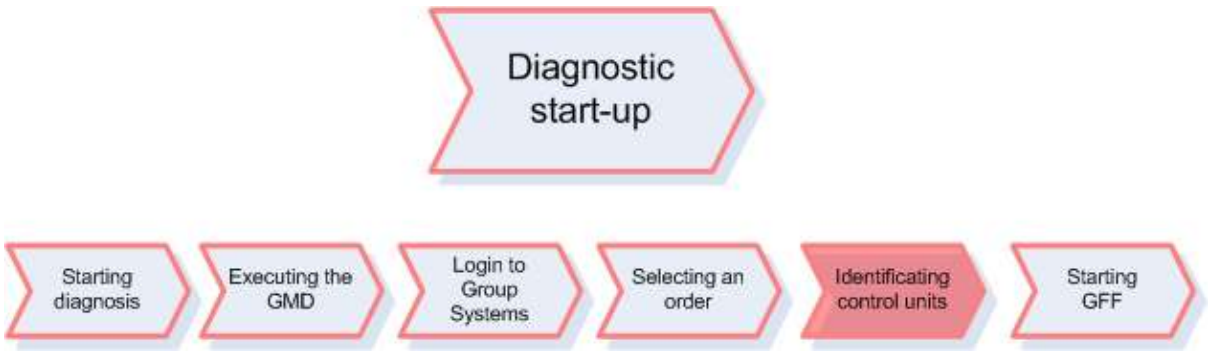



**Figure 6.28. Identify control units section**

If the vehicle is marked in the equipment network for CAN diagnosis, the **gateway installation list** is read with information on the communication protocol, the vehicle's target installation, the vehicle's actual installation and the current event memory status.

If a difference between the target installation and the actual installation in the vehicle is identified according to the status information in the gateway installation list, **Offboard Diagnostic Information System Service** opens a **Check installation list** window with the control units in the order provided by the gateway. This installation list can be sorted by diagnostic address, control unit name, coding status and installation status in the test window.

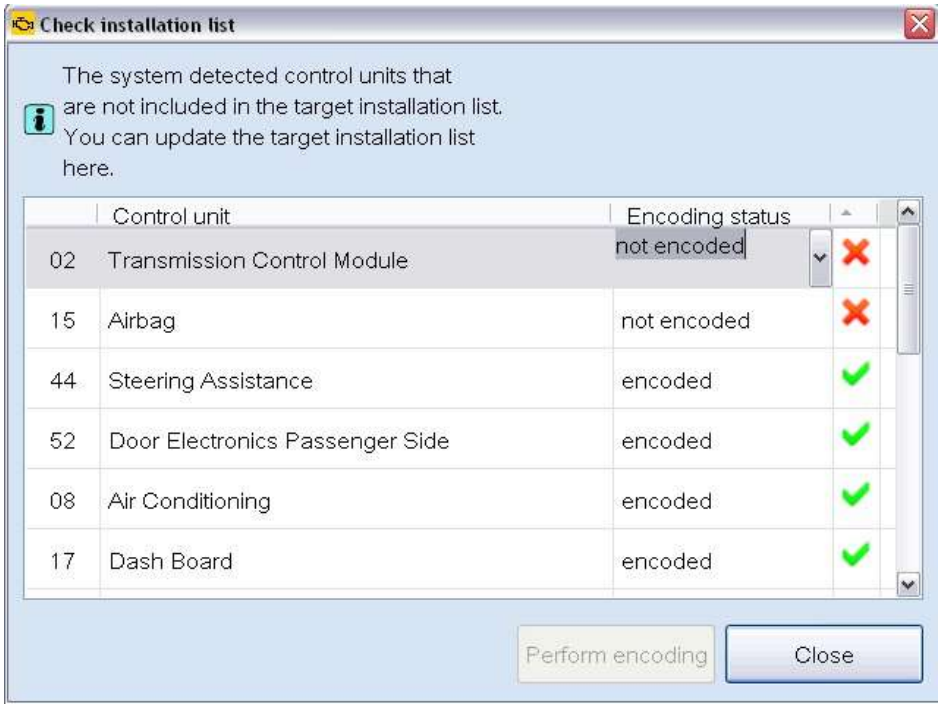

Check installation list
The system detected control units that are not included in the target installation list. You can update the target installation list here.
Control unit
Encoding status
02 Transmission Control Module not encoded
15 Airbag not encoded
44 Steering Assistance encoded
52 Door Electronics Passenger Side encoded
08 Air Conditioning encoded
17 Dash Board encoded
Perform encoding
Close

**Figure 6.29. "Check installation list" dialogue**

The **installation status** is indicated by these symbols:

The target installation displayed corresponds to the actual installation.

The target installation displayed corresponds to the actual installation. The target installation has been changed and not coded yet.

The target installation displayed does *not* correspond to the actual installation.

The target installation displayed does *not* correspond to the actual installation. The target installation has been changed and not coded yet.

**Close:** The window is closed.

The installation status can be edited via the **coding status**.

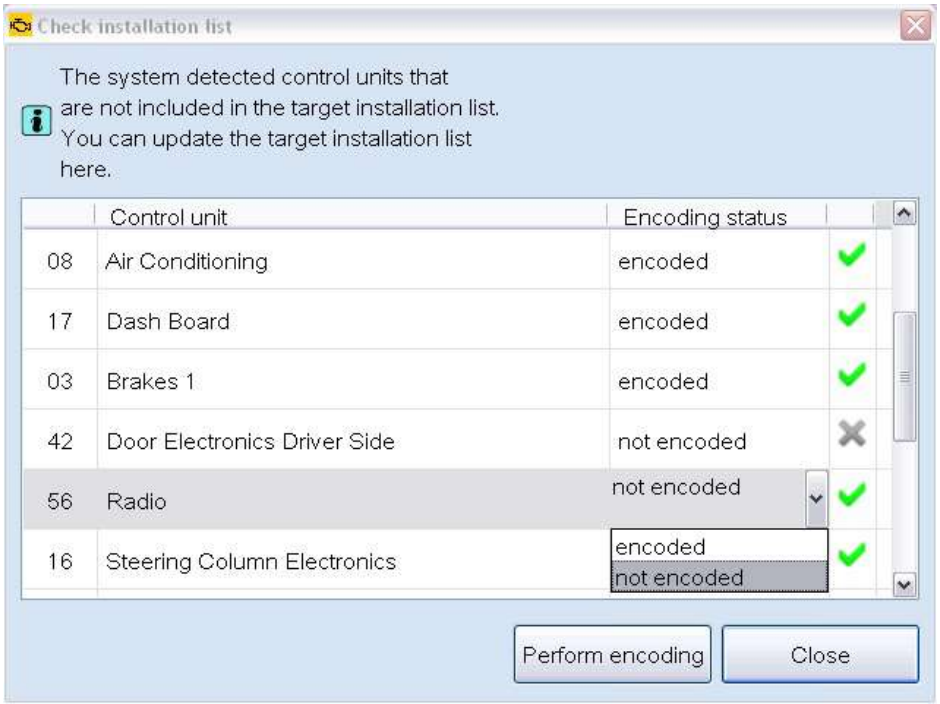

Check installation list
The system detected control units that are not included in the target installation list. You can update the target installation list here.
Control unit
Encoding status
08 Air Conditioning encoded
17 Dash Board encoded
03 Brakes 1 encoded
42 Door Electronics Driver Side not encoded
56 Radio not encoded
16 Steering Column Electronics
encoded
not encoded
Perform encoding
Close

**Figure 6.30. Editing the coding status**

The **coded** or **not coded** setting can be edited.

To do this, mark the control unit using the mouse and click on the coding status on the right to open the listbox for making a selection.

**Coded** means that the control unit is included in the target installation.

**Not coded** means that the control unit is **not** included in the target installation.

**Code**: The changes to the coding setting are applied and the installation list is re-read. If there are still differences between the actual installation and the target installation, the dialogue is displayed again.

**Close:** Checking of the installation is stopped and the existing code is accepted.

---

**Note:**

For the following automatic identification of the control units, a **reading plan** is compiled, in which all control units are listed, which are addressed independently by the system during identification. The reading plan consists of information of the MCD project, the gateway installation list and the control unit nodes of the equipment network. The list is thus limited to those control units that are very probably installed in the vehicle.

---

If control units indicated in the equipment network as *correctly installed* are not identified during **automatic identification**, it is possible to read them out again. The dialogue opens: **Control units not identified (installed correctly)**.

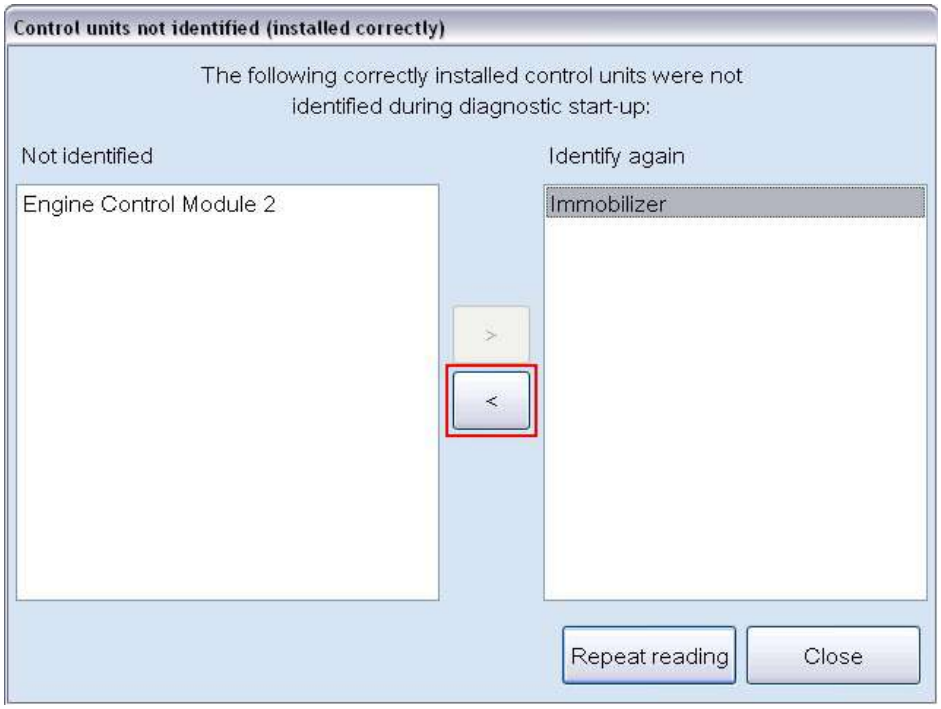



**Figure 6.31. "Control units not identified" dialogue**

All control units that have not been identified are displayed in the left-hand field of the dialogue. By marking one or more control units and clicking on the direction arrow >, control units can be moved into the right-hand window to be identified again.

Control units can also be moved into the left-hand window using < if repeated identification is not desired.

**Repeat reading:** To start another attempt to read these control units, click on this button. If the control units are still not identified, the dialogue appears again. The list of control units then only includes those previously selected.

**Close:** To close the dialogue and end repeated identification, click on this button.

## 6.2.5.1. Control unit list

The control units can be viewed in the control unit list or in the block diagram. The desired view is selected using the corresponding button.

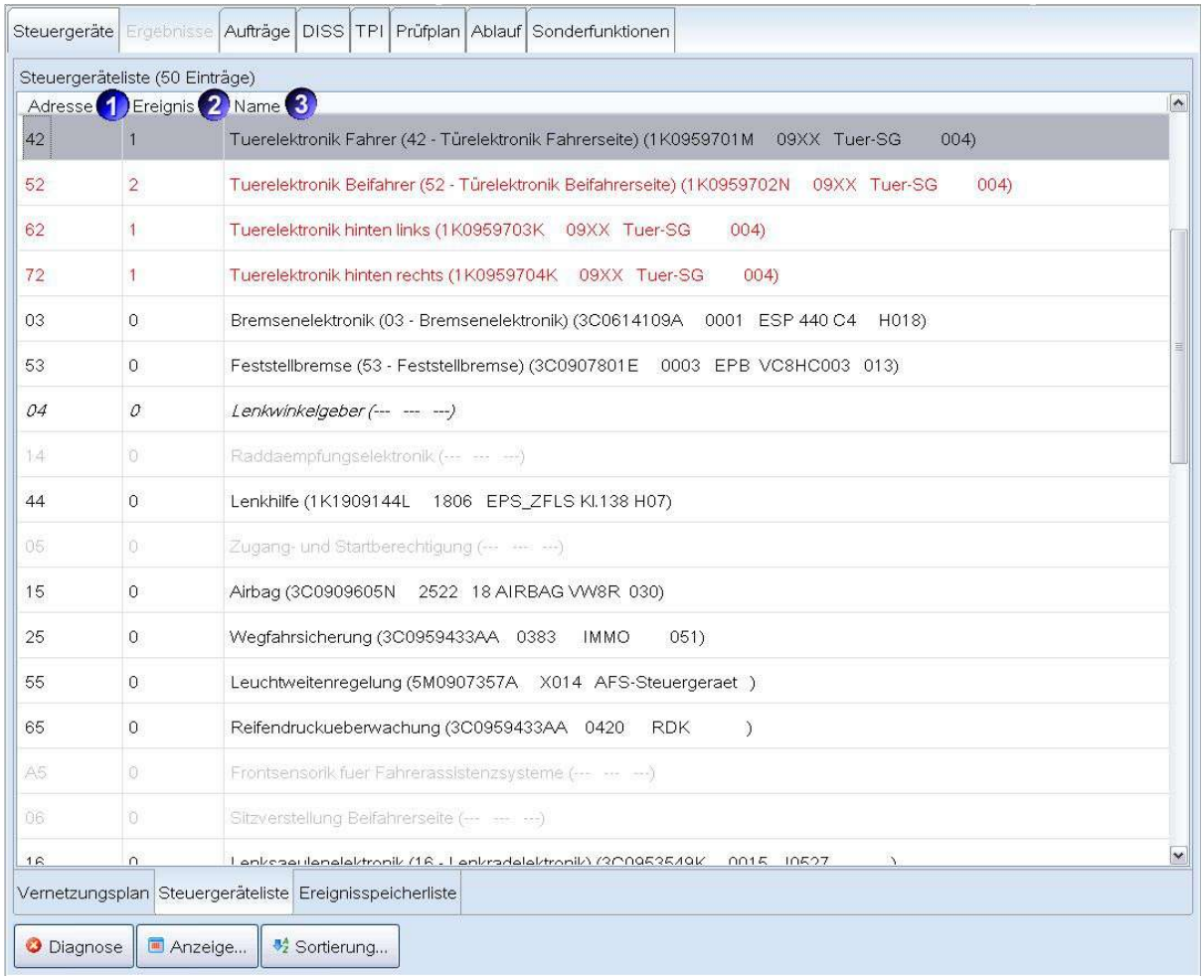

Steuergeräte
Ergebnisse
Aufträge
DISS
TPI
Prüfplan
Ablauf
Sonderfunktionen
Steuergeräteliste (50 Einträge)
Adresse 1
Ereignis 2
Name 3
42 1 Tuerelektronik Fahrer (42 - Türelektronik Fahrerseite) (1K0959701M 09XX Tuer-SG 004)
52 2 Tuerelektronik Beifahrer (52 - Türelektronik Beifahrerseite) (1K0959702N 09XX Tuer-SG 004)
62 1 Tuerelektronik hinten links (1K0959703K 09XX Tuer-SG 004)
72 1 Tuerelektronik hinten rechts (1K0959704K 09XX Tuer-SG 004)
03 0 Bremsenelektronik (03 - Bremsenelektronik) (3C0614109A 0001 ESP 440 C4 H018)
53 0 Feststellbremse (53 - Feststellbremse) (3C0907801E 0003 EPB VC8HC003 013)
04 0 Lenkwinkelgeber (--- --- ---)
14 0 Raddaempfungselektronik (--- --- ---)
44 0 Lenkhilfe (1K1909144L 1806 EPS_ZFLS Kl.138 H07)
05 0 Zugang- und Startberechtigung (--- --- ---)
15 0 Airbag (3C0909605N 2522 18 AIRBAG VW8R 030)
25 0 Wegfahrsicherung (3C0959433AA 0383 IMMO 051)
55 0 Leuchtweitenregelung (5M0907357A X014 AFS-Steuergeraet )
65 0 Reifendruckueberwachung (3C0959433AA 0420 RDK )
A5 0 Frontsensorik fuer Fahrerassistenzsysteme (--- --- ---)
06 0 Sitzverstellung Beifahrerseite (--- --- ---)
Vernetzungsplan
Steuergeräteliste
Ereignisspeicherliste
Diagnose
Anzeige...
Sortierung...

**Figure 6.32. View of the control unit list**

The **Control units list** shows the control units installed in vehicles with a full options package. The control units installed in the vehicle are displayed in **black**. The control units not identified are displayed in **grey**. Control units subsequently entered "as installed" are displayed in **black italics**. Control units with event memory entries are displayed in **red**.

The **Control units** table has three columns.

1 **Address** column

The **Address** column shows the diagnostic address for each control unit.

2 **Event** column

The **Event** column shows the number of event memory entries for each control unit.

3 **Name** column

The **Name** column shows the name of each control unit.

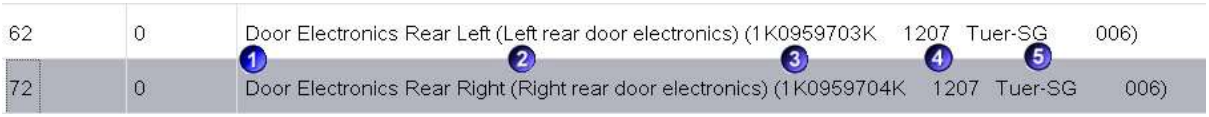

62 0 Door Electronics Rear Left (Left rear door electronics) (1K0959703K 1207 Tuer-SG 006)
72 0 Door Electronics Rear Right (Right rear door electronics) (1K0959704K 1207 Tuer-SG 006)
1
2
3
4
5

**Figure 6.33. Information on a control unit**

More information about the control unit is available in brackets after the control unit name. The name of the variant is only displayed if a variant has been set.

**1 System name**

**2 Variant**

**3 Software part number**

**4 Software version number**

**5 System designation**

There are several ways to sort these columns.




Click on the **Sort preference** button. An additional button appears that can be used to sort the table's contents.

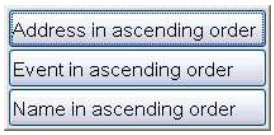



**Figure 6.34. Sorting the control unit list**

**Address, ascending:** To sort the control units by diagnostic address value, beginning with the smallest value, click on this button.

**Event, ascending:** This button sorts the control units by the number of their events.

**Name, ascending:** This button lists all the control units in alphabetical order.

In all, there are three ways of sorting the address, event and name:

1) **In ascending order** (address number, number of events, control unit name)

2) **In descending order** (address number, number of events, control unit name)

3) **Unsorted** (address number, number of events, control unit name)

The **sort preference** can be changed in this order. The captions of the buttons are changed accordingly.

**Note**:

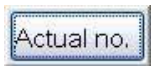
Clicking on **Change sort preference** button again shows the **Event, descending** button. Click on the **Event, descending** button to show control units with the most event entries at the beginning of the table. This provides a quick overview of the control units with event entries displayed.

Another way to sort the table's contents is to click on the corresponding **column heading** in the table. To sort the diagnostic addresses in ascending order, click on the **Address** heading once. To sort the numbers in descending

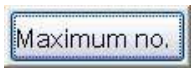
order, click on the column heading again. To return the diagnostic addresses to the unsorted order in which they were originally read, click on the column heading a third time. Sorting works the same way for the **Event** and **Name** columns.



To change the view between **Actual no.** and **Maximum no.** click on this button.



**Actual no.:** To show only the control units actually installed, click on this button.



**Maximum no.:**
To show all control units possible for the vehicle model, click on this button.

## 6.2.5.2. Block diagram

When reading of the control units is started, the block diagram for the vehicle may already be displayed on the **Control units** tab.

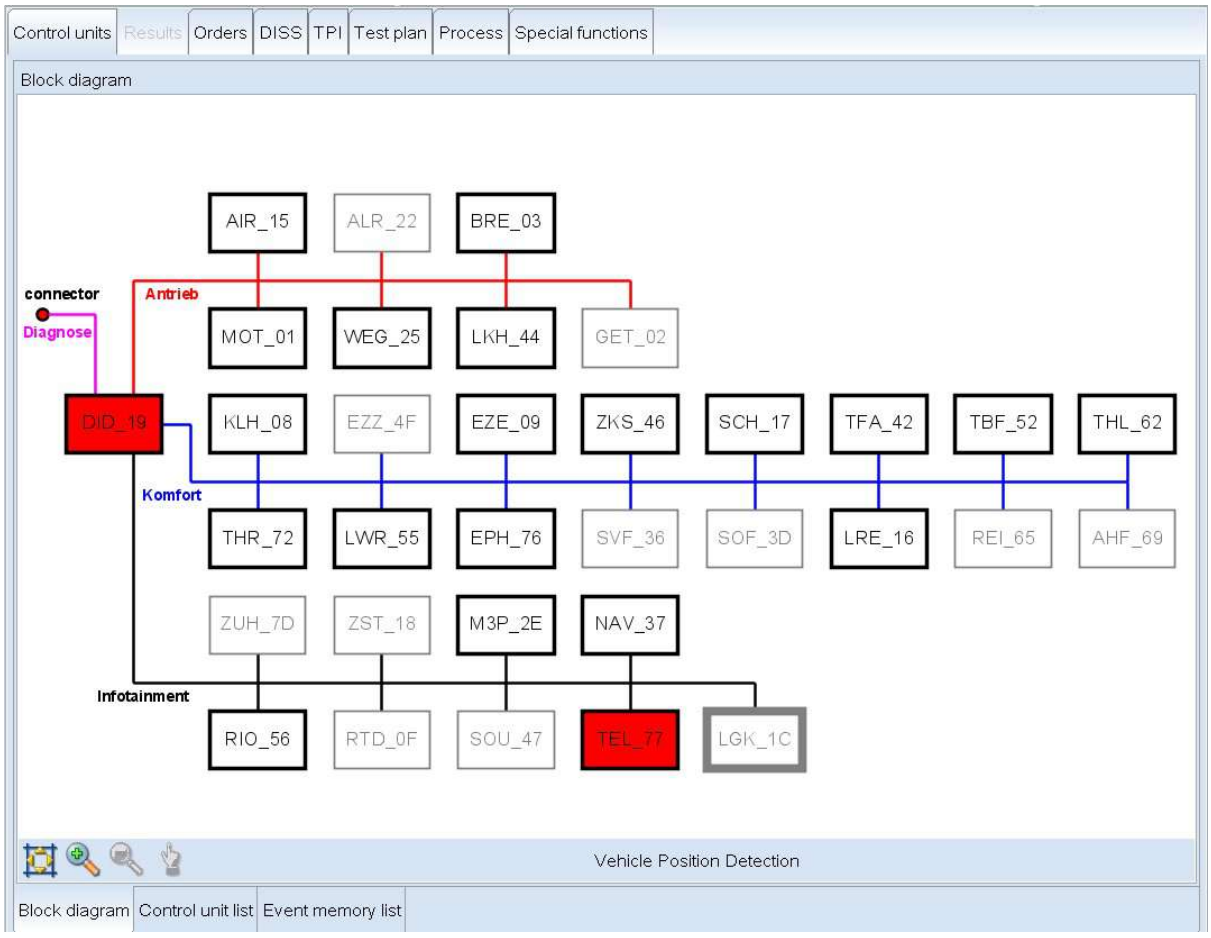



**Figure 6.35. View of the block diagram**

To open a graphical overview of the current block diagram in the overall view, click on the **Block diagram** button.

The **block diagram** displays the control unit network of the full options package. Clicking on a control unit symbol displays a message text with the system name of the control unit under the **block diagram**.

Several buttons that can be used to navigate in the **block diagram** are available below it.



From left to right:

Switching to the overall view of the block diagram

 If you have zoomed in on the block diagram and would like to return to the overall view, click on this button.

Zooming in on the block diagram

 Each time you click on this button, the **block diagram** 's size increases and you can recognise further details. If the button is not active, the block diagram is at maximum zoom size.

Zooming out of the block diagram

 Click on this button to zoom out of the **block diagram**. This button is not enabled in the overall view of the block diagram.

Moving the block diagram

 To move the **block diagram**, click on this button.

After activating the button, click on the **block diagram** and move it in the desired direction using your finger (if you are using the touchscreen). If you are using a mouse, hold down the left mouse button and move the mouse to access the desired point in the **block diagram**.

This button is not enabled in the overall view of the block diagram.

---

**Note:**

If the  symbol is activated, it is not possible to double-click using the touchscreen or left mouse button.

---

Individual **control units** are displayed differently depending on their state.

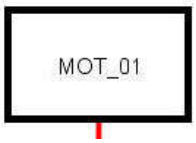
The control unit was not identified and is only installed in vehicles with a full options package.




The control unit was not identified, but it exists in the gateway installation list.




The control unit has been found and identified and does not have any event memory entries.




No event memory entries were found for this control unit.




**Figure 6.36. Examples of the graphical display of the control units**

In the event of a longer click (approx. one second) or right-click on a **control unit** in the **block diagram** or the **control unit list**, another button bar opens. The buttons on this bar apply to the **control unit** selected.

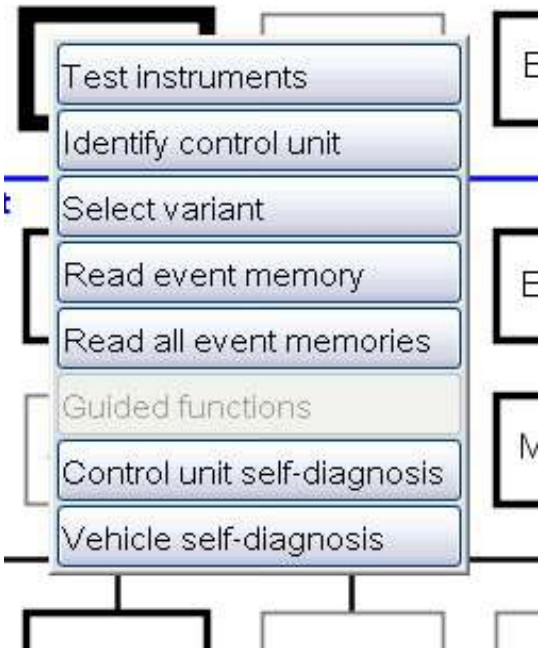



**Figure 6.37. Buttons for the individual control units**

The following buttons are available via the context menu:




**Figure 6.38. Context menu (control unit buttons)**

1 If you click on the **Test instruments** button, **Offboard Diagnostic Information System Service** switches to **Test instruments** mode.

⇨ **Reference:**

See also chapter "Test instruments"

2 For a preferred or subsequent identification of a control unit, depending on the time of the call, click on the **Identify control units** button:

- The **preferred identification** is applied **during automatic control unit identification**. The order of automatic control unit identification is changed here.
- **Subsequent identification** is applied **after control unit identification**. An undetected and identified control unit is subsequently **entered as installed** manually here. If the entry is made by confirming the message from **Offboard Diagnostic Information System Service** displayed below, the control unit is entered as installed manually.

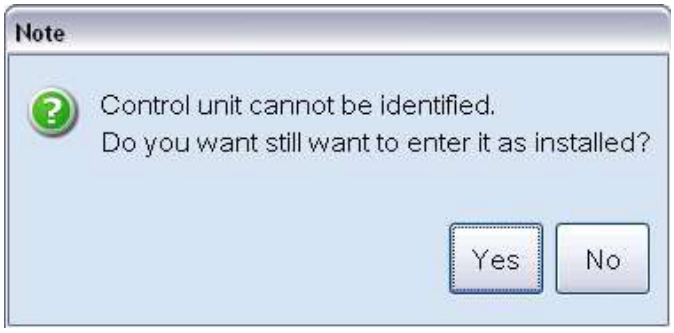



**Figure 6.39. Entering a control unit as installed**

**Yes:** The control unit is marked as **entered as installed** manually and displayed in the block diagram and the control unit list accordingly.

**No:** The control unit is marked as **not entered as installed**.

If a control unit has been subsequently **entered as installed** manually because it could not be identified automatically, it is displayed in **italics** in the control unit list and in the block diagram.

| | | |
|---|---|---|
| 15 | 0 | Airbag (Airbag) (1K0909605AB 8000 58 AIRBAG VW8R 034) |
| 25 | 0 | Immobilizer (Immobilizer) (1K0920874M 1220 IMMO VDD) |
| 55 | 0 | Headlight Regulation (1T0907357 0003 Dynamische LWR ) |
| *65* | *0* | *Tire Pressure Monitoring 1 (--- --- ---)* |
| 16 | 0 | Steering Column Electronics (Steering column electronics) (1K0953549BD 0070 J0527 036) |
| *36* | *0* | *Seat Adjustment Driver Side (--- --- ---)* |
| 46 | 0 | Central Module Comfort System (1K0959433BT 0204 KSG PQ35 G2 020) |

**Figure 6.40. Control units entered manually "as installed" displayed in italics**

3 The **Select variant** button enables a variant of the control unit to be selected if several control variants exist. All possible variants of the control unit are shown.

The variant can be changed any number of times.

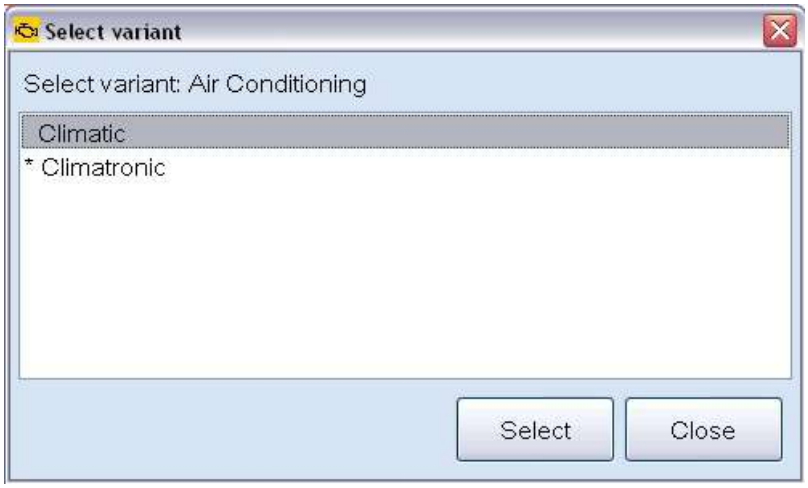



**Figure 6.41. "Select variant" dialogue**

**Select**: After the control unit variant has been selected and confirmed by clicking on this button, the control unit list, the event memory and the test plan are updated automatically.

**Close:** To close the dialogue without selecting a variant, click on this button.

The variant selection is only available for control units already identified or entered manually.

⇨ **Reference:**

See also "Guided fault finding, Calculate test plan" chapter

4 To re-read only the event memory entries of the selected control unit, click on the **Read event memory** button. The test plan is automatically updated in the process.

5 To read the event memories of all control units identified, click on the **Read all event memories** button. The test plan is thus also updated.

6 After identification of a control unit, the **Guided functions** button can be used to open a selection that includes all function tests for this control unit, e.g. actuator diagnosis for the crash signal. If a function test is selected and you click on the **Execute** button, the program is executed on the Process tab.

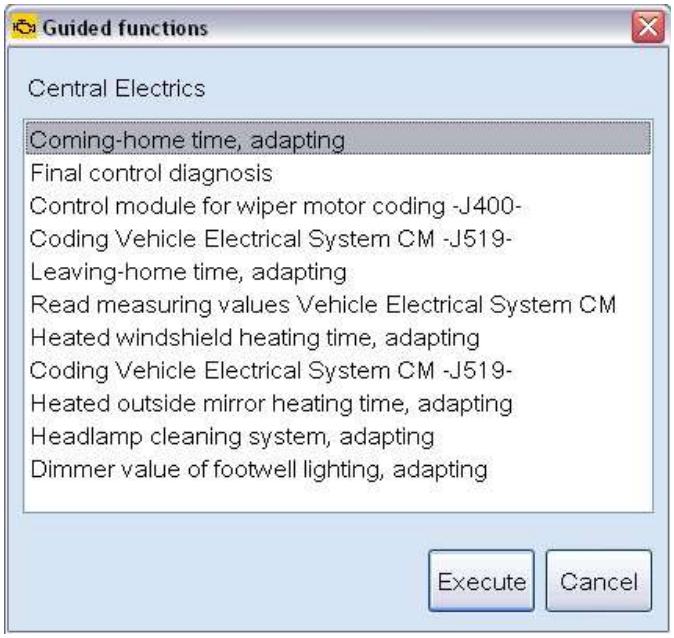

Guided functions
Central Electrics
Coming-home time, adapting
Final control diagnosis
Control module for wiper motor coding -J400-
Coding Vehicle Electrical System CM -J519-
Leaving-home time, adapting
Read measuring values Vehicle Electrical System CM
Heated windshield heating time, adapting
Coding Vehicle Electrical System CM -J519-
Heated outside mirror heating time, adapting
Headlamp cleaning system, adapting
Dimmer value of footwell lighting, adapting
Execute
Cancel

**Figure 6.42. Selecting a guided function for a control unit**

**Execute:** A selected guided function is executed by clicking on this button on the Process tab.

**Cancel:** The Guided Functions window is closed.

⓻ **Self-diagnosis** button and ⓼ **Vehicle self-diagnosis** button are described in detail in the "Self-diagnosis" chapter of this manual.

⇨ **Reference**:

See also chapter "Self-diagnosis"

## 6.2.5.3. Event memory

The event memory view can be used to view event memories available for all control units. This list only contains control units with an event memory entry.

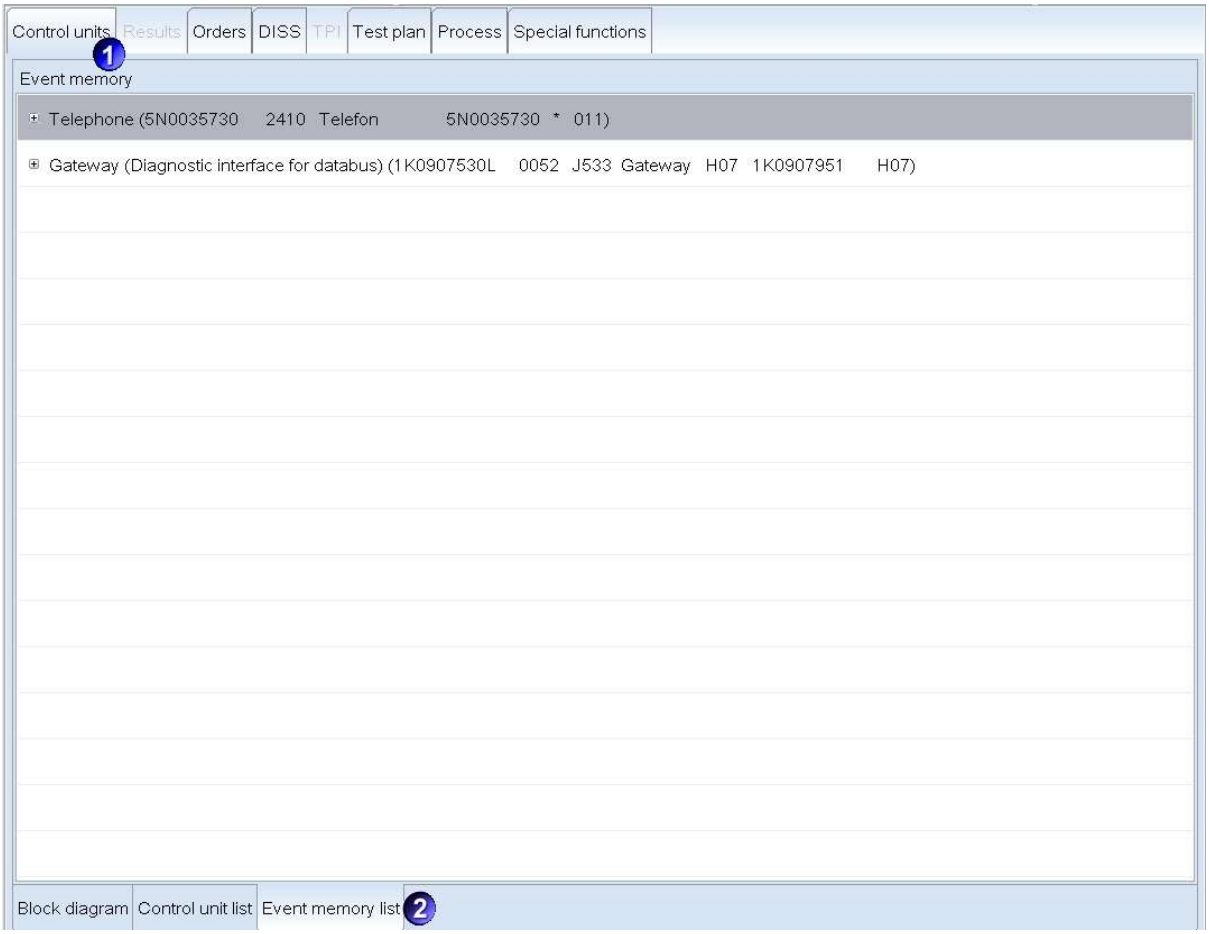



**Figure 6.43. View of the event memory entries**

Click on the **Event memory list** tab 2 on the **Control units** tab 1 to list the control units with event memory entries.

At first, the entries are closed and the list displays the control units.

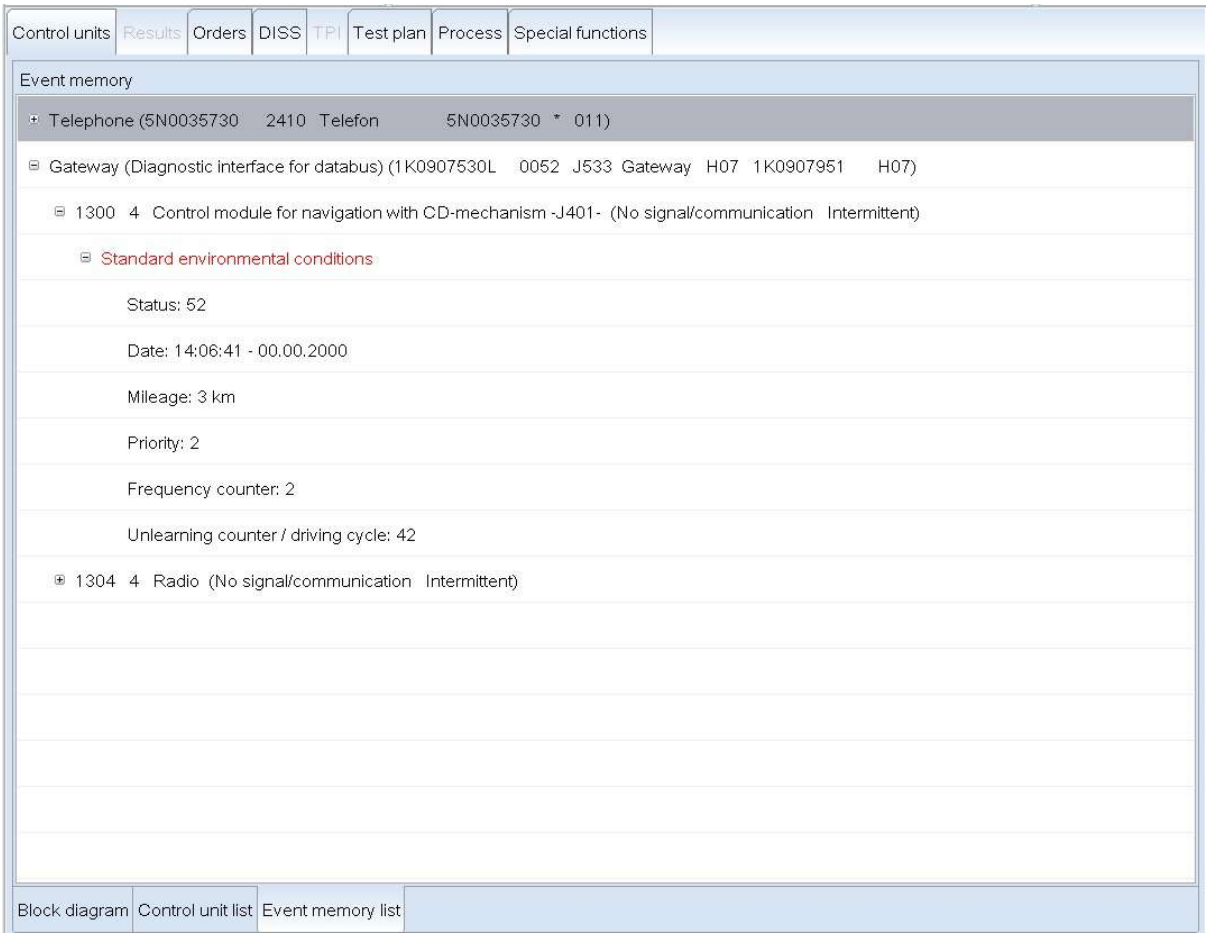



**Figure 6.44. Opening an event memory entry**

Double-click on an event memory entry to open or close it. If it is marked with a **plus sign (+)** or a **minus sign (-)**, click on the plus sign or minus sign to open or close it.

Details on the control unit are explained in the following figure.




**Figure 6.45. Information on an event memory entry**

The following information is available in the event memory entry according to the numbers:

1 Event code

2 Symptom code

3 Event location

4 Symptom

5 Memory status

Display... You can use the **Display** button to switch between the two views

with ambient conditions The standard ambient conditions are displayed

without ambient conditions The standard ambient conditions are not displayed

.

The **standard environmental conditions** provide information on the following:

- Status
- Date and time of the entry
- Mileage
- Priority
- Frequency counter
- Unlearning counter / driving cycle

Sorting... To change the sequence within an event memory entry, click on the **Sort preference** button. The active sort order is greyed out in the menu.




**Figure 6.46. Sorting the event memory list**

**Mileage:** To sort the contents by kilometres driven in ascending order, click on this button.

**Priority:** This button shows the contents sorted in order of importance.

**Frequency counter**: Click on this button to sort the contents by the frequency counter (how frequently the event was identified).

**Status**: This button is used to sort the contents by the status of the event memory entries.

**sporadic/static**: This button is used to list events entered as sporadic at the top of the list.

**Reference**:

See also chapter "Control unit list"

In the event of a longer click (approx. one second) or right-click on a control unit, the control unit context menu opens like in the control unit list.

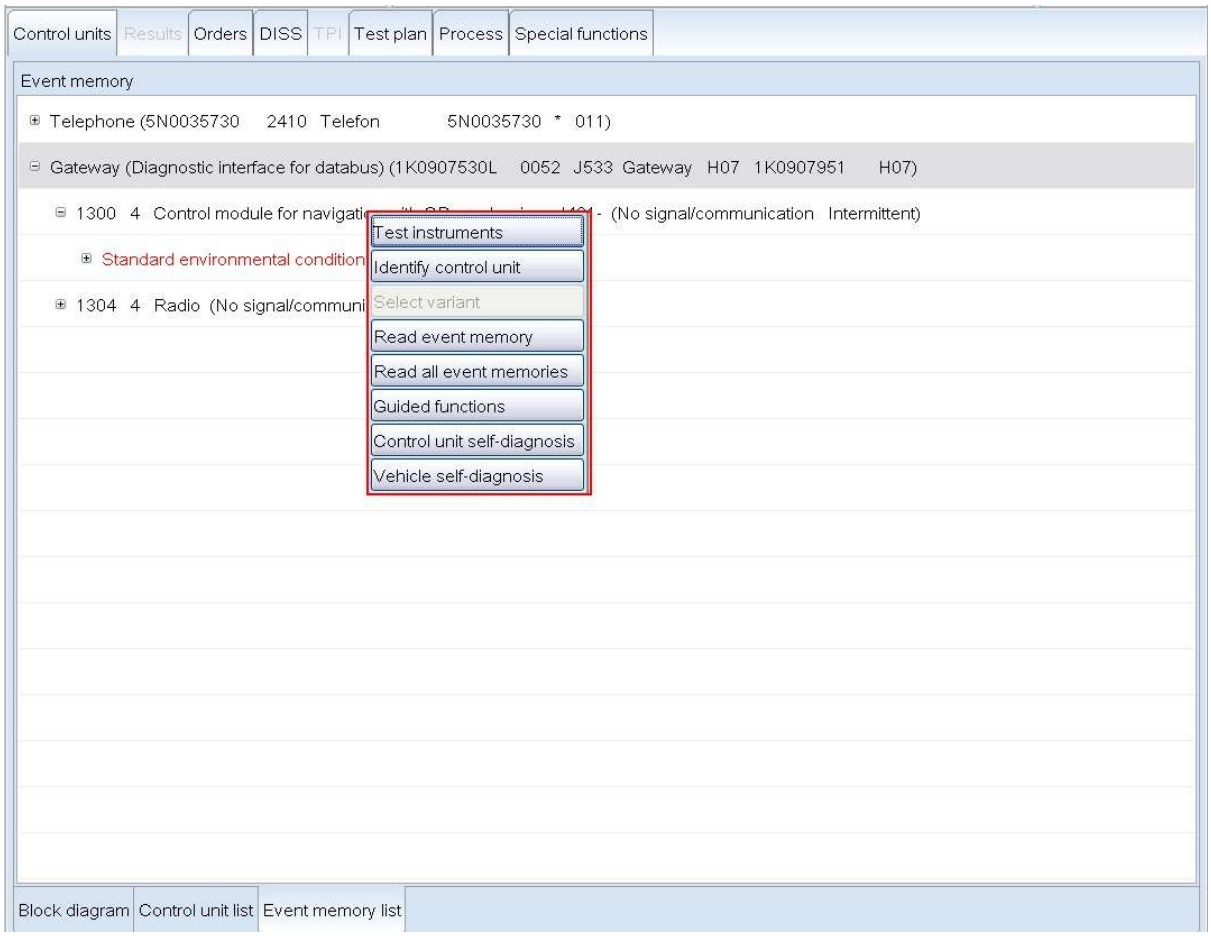



**Figure 6.47. Context menu in the event memory view**

The buttons of the context menu are described in more detail in the **Block diagram** chapter.

**Reference:**

See also "Block diagram" chapter.

# 6.2.6. Starting guided fault finding (GFF)

Once identification of the control units is completed, guided fault finding can be started.

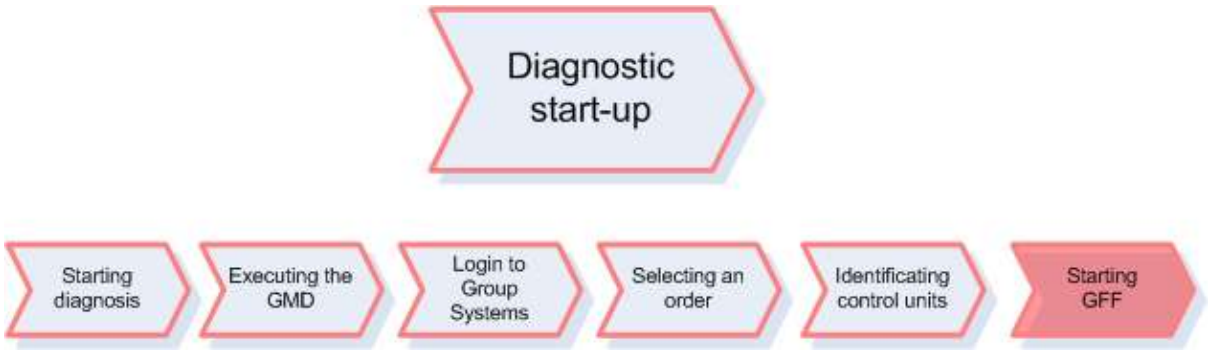



**Figure 6.48. Start GFF section**

**Offboard Diagnostic Information System Service** opens the **Diagnostic start-up** confirmation window with the message that **guided fault finding** (GFF) should be started.

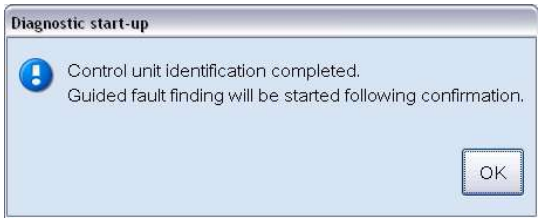



**Figure 6.49. Starting guided fault finding**

**OK**: Use this button for confirmation to start guided fault finding.

The next chapter describes the processes executed by **Offboard Diagnostic Information System Service** during guided fault finding in detail.

**⇨ Reference:**

See also chapter "Using GFF"

**Note:**

If control units installed in the vehicle could **not be identified**, it is possible to enter them in the block diagram or the control unit as **installed**, **select a variant** if necessary, and then **supplement them as diagnostic objects** via the component selection.

**Reference:**

See also "Identifying control units"

**Reference:**

See also "Selecting a variant"

**Reference:**

See also "Component selection"

# 6.3. Test plan and special functions

In the **Test plan and special functions** section, start modules and traversion tests are executed, the test plan is calculated automatically and adjusted manually via DISS and TPI, if necessary. At the end of this section, the test plan and special functions are available for guided fault finding.

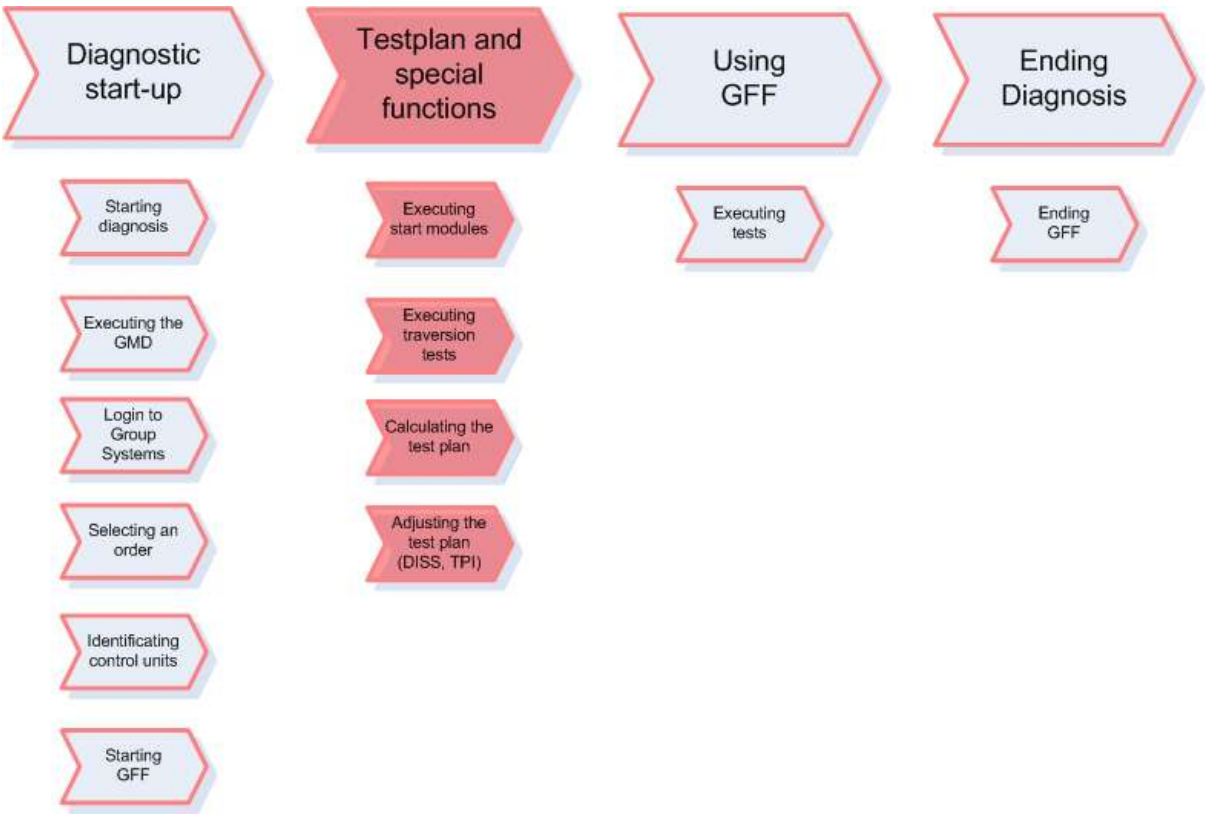



**Figure 6.50. Test plan and special functions section**

# 6.3.1. Start modules, traversion tests, test plan calculation

This section describes how **Offboard Diagnostic Information System Service** executes start modules and traversion tests and then creates the test plan.

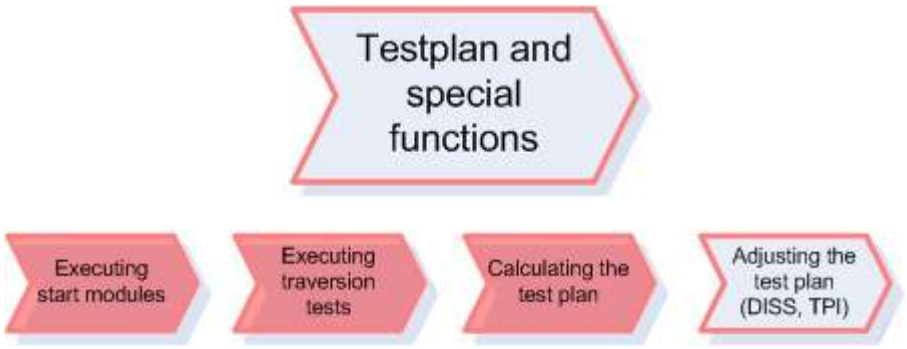

Testplan and special functions
Executing start modules
Executing traversion tests
Calculating the test plan
Adjusting the test plan (DISS, TPI)

**Figure 6.51. Start modules, traversion tests, test plan calculation section**

When guided fault finding is started, start modules and traversion tests are executed on the Process tab. These tests run in the background.

During a traversion test, the control unit information read out is used to set the control unit variants. If a variant cannot be determined automatically or if a vehicle-specific characteristic is to be specified, a message is displayed with an appropriate selection. If several variants of individual control units are available in the context of the traversion tests, a dialogue for selecting variants appears.

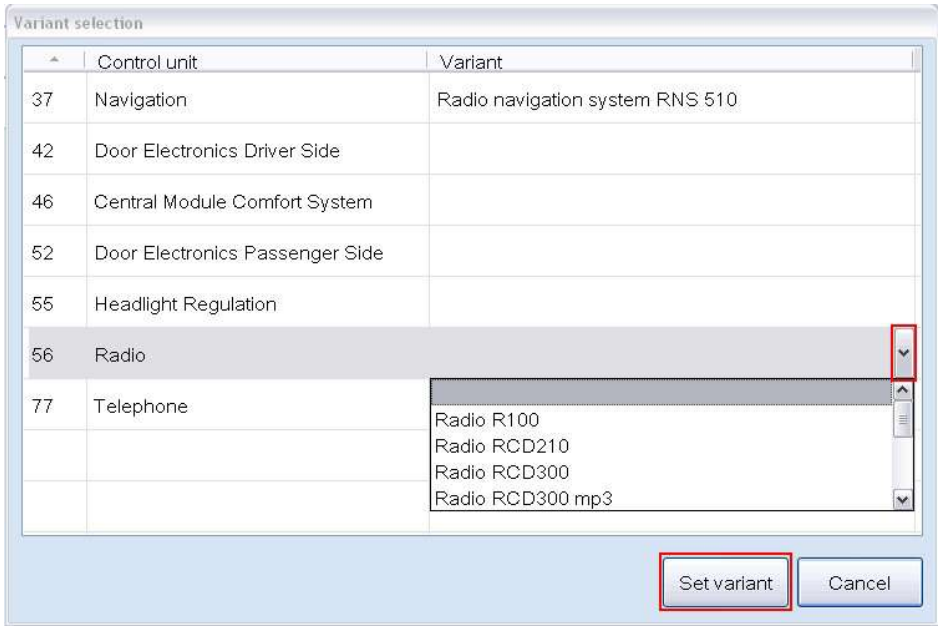



**Figure 6.52. Variant selection view**

To select a control unit variant, click in the **Variant** field next to the corresponding control unit. A button appears that can be used to open the menu for selecting the variants.

**Set variant:** The selected control unit variants are applied.

After setting the control unit variants, the creation of the **test plan** starts.

The automatic compilation of the **test plan** and the order of the test programs depend on the event memory entries read out of the control units, the Technical Product Information (TPI) and on customer findings during dialogue

reception available in coded form. These coded customer live statements are made up of fault objects (e.g. components), fault types (e.g. "rattling") and boundary conditions (e.g. temperature).

The test programs in the **test plan** are listed in the guided fault finding, sorted from top to bottom by their potential success.

There are several ways of creating and updating a **test plan**. More details on creating the test plan are available in these chapters:

Creating a test plan during **diagnostic start-up**.

**Reference**:

See chapter "Diagnostic start-up"

Creating a test plan by selecting the variant.

**Reference:**

See chapter "Diagnostic start-up variant button".

Updating a test plan by re-reading the event memory.

**Reference:**

See chapter"Diagnostic start-up event memory".

Test plan update via DISS / TPI.

**Reference:**

See chapter "Guided fault finding, DISS /TPI"

## 6.3.2. DISS / TPI

This section describes how to control the creation of the test plan with the creation and integration of complaints.

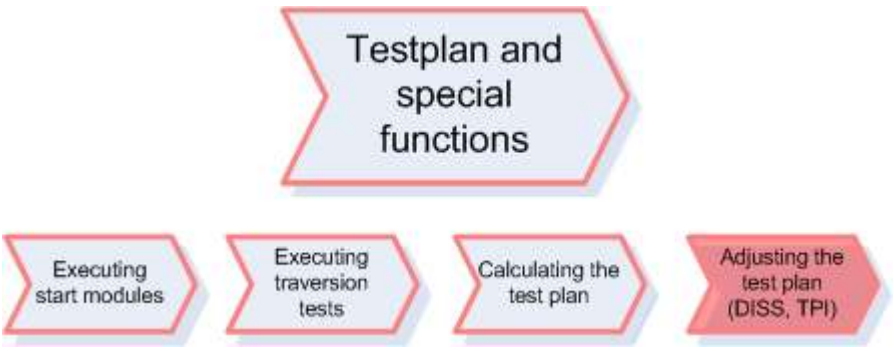

Testplan and special functions
Executing start modules
Executing traversion tests
Calculating the test plan
Adjusting the test plan (DISS, TPI)

**Figure 6.53. DISS/TPI section**

After compiling the test plan in the background, **Offboard Diagnostic Information System Service** automatically switches to the **DISS** tab.

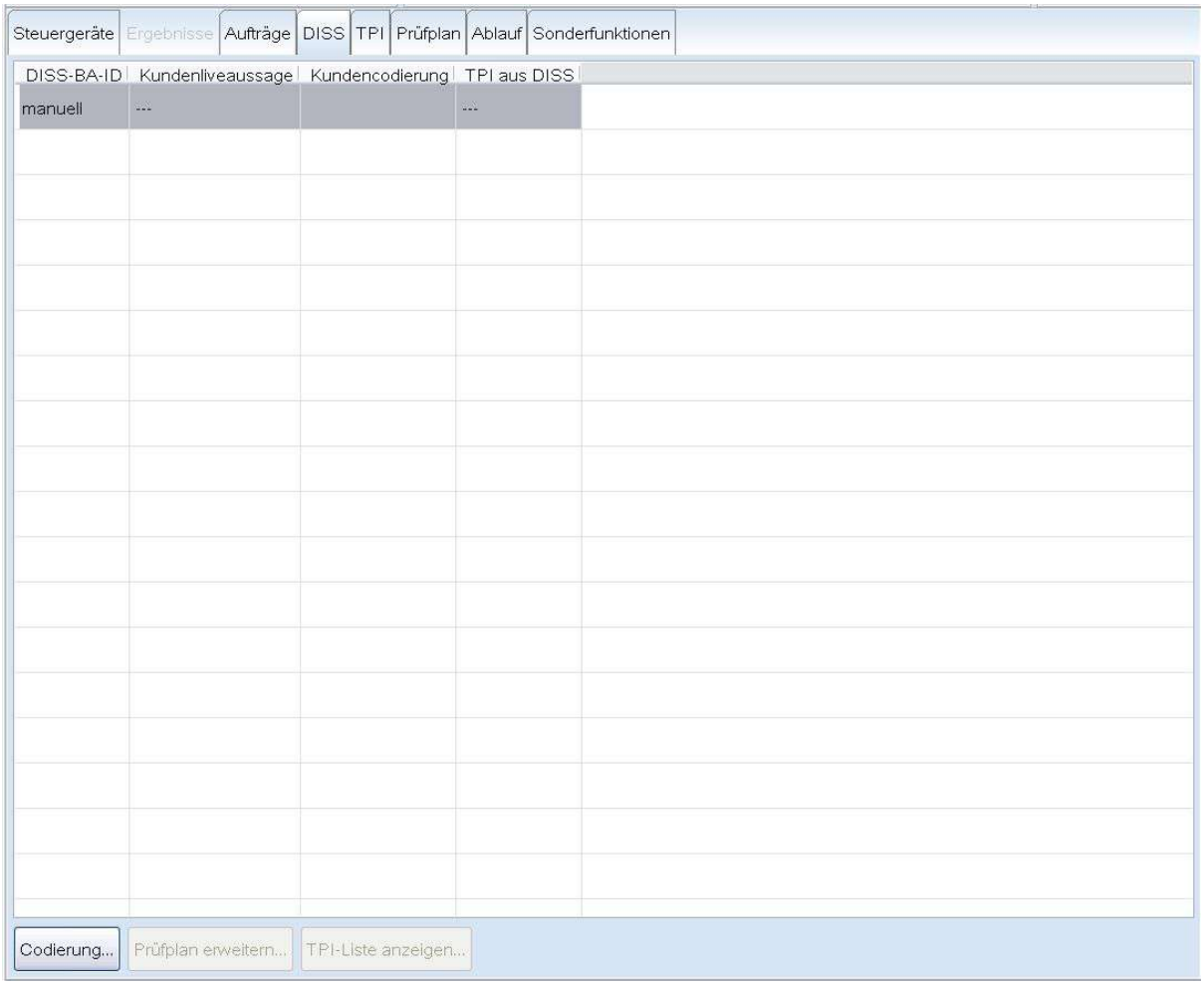



**Figure 6.54. DISS tab view after diagnostic start-up**

On the one hand, all DISS complaints are listed for the order selected in **ElsaPro**. On the other hand, manual complaints can be created using a coding wizard. These complaints can be used to change the test plan for guided fault finding.

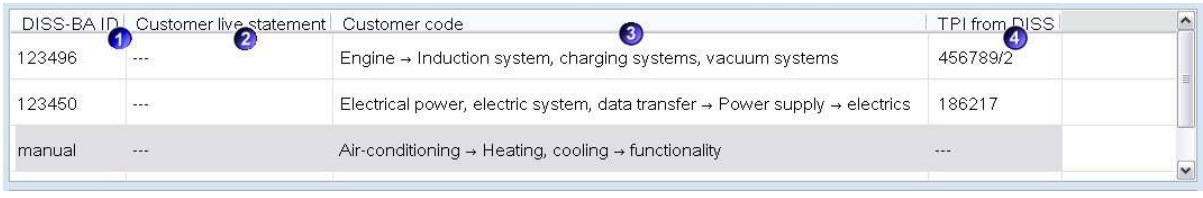



**Figure 6.55. Table with DISS complaints**

The table list of DISS complaints has four columns:

1. **DISS BA ID**: That is the identification number of a complaint.

2. **Customer live statement**: That is the complaint in the customer's words as entered during placement of the order.

3. **Customer code**: That is the customer live statement in text form.

4. **TPI from DISS**: The number of the TPI assigned to the complaint from the DISS system.

There are two possible categories of **DISS complaints**:

1. **Complaints from the DISS system**: These complaints display all DISS information from the currently used order from **ElsaPro** and are called automatically in the background when the order is selected at the start of the diagnostic session. To list the complaints from DISS, an online connection with login to the Group systems is necessary.

2. **Manual complaints**: These complaints are entered manually and displayed in the customer code column. The **DISS BA ID** is always "manual", the two remaining columns are without data. These complaints are also available offline without login to the Group systems.

A manual complaint is created using the **coding wizard**. Click on the **Coding...** button of a marked blank complaint line to open the **Coding wizard** dialogue box.

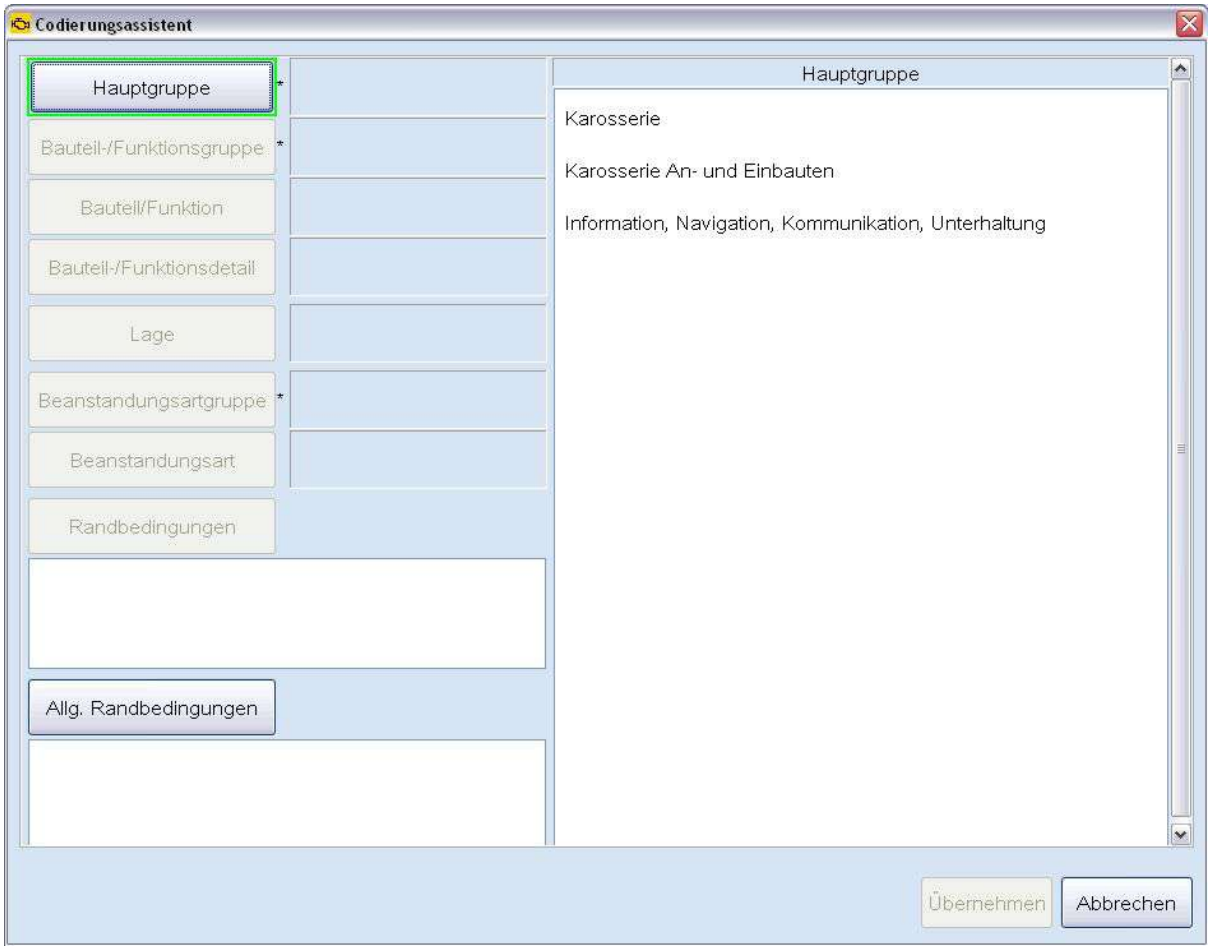



**Figure 6.56. Coding wizard dialogue box**

Each time after entering a manual code in the complaints table, **Offboard Diagnostic Information System Service** creates a new row for a manual complaint.

**⇨ Reference:**

How to use the coding wizard is described in more detail in the "Coding wizard" chapter.

**Functions for displaying TPI:**

At the bottom of the complaint list, there are function buttons that can be used to open the overall view of a customer code for a marked complaint, to extend the test plan, select suitable **TPI lists** from the **DISS system** or select individual **TPI** linked to the complaint on the **TPI** tab.

These function buttons are only enabled for existing DISS complaints.

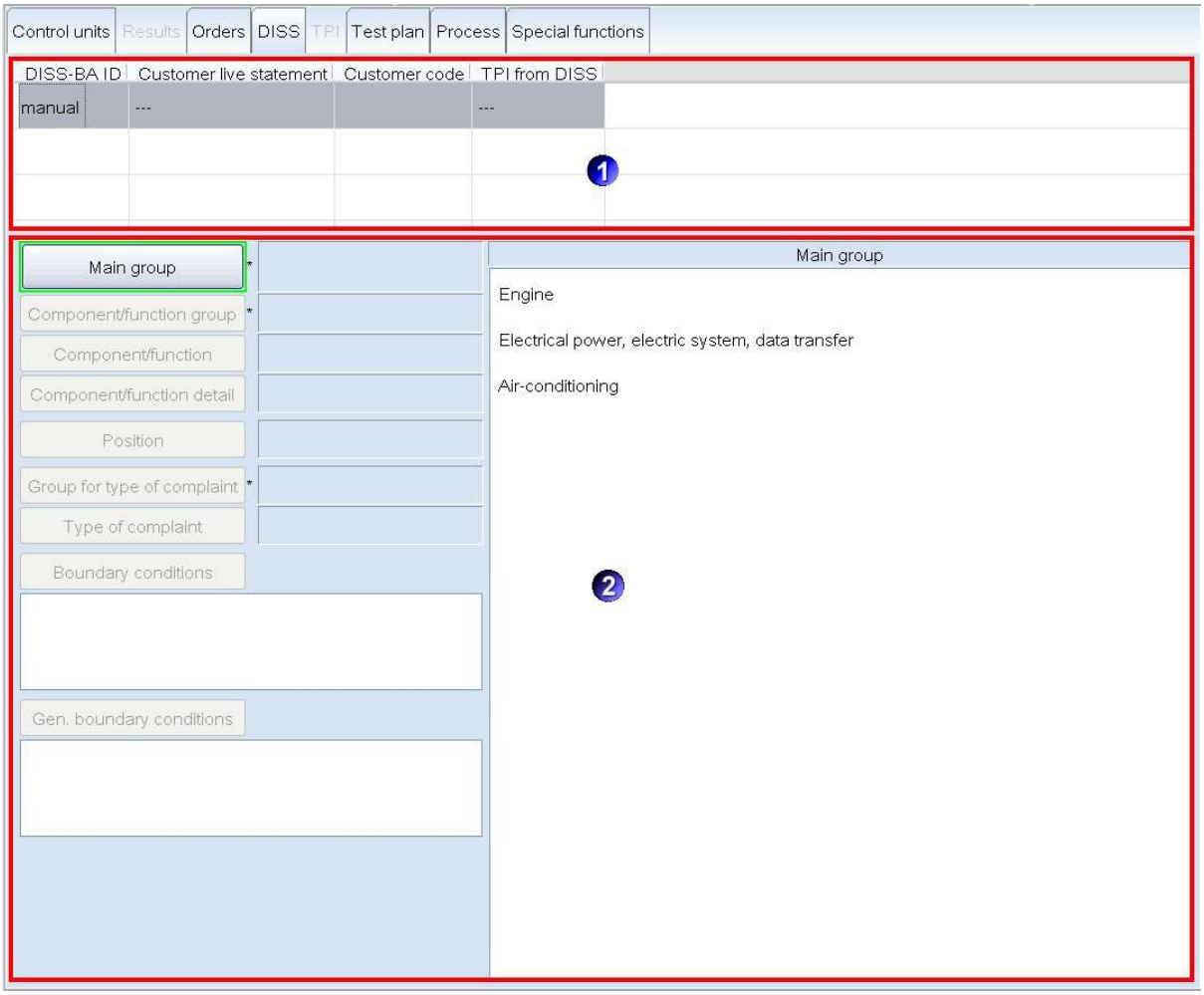



**Figure 6.57. Function buttons on the DISS tab**

**Code...**: All details of the customer code are displayed in a table for the selected complaint in the **Overall view of customer code** window.

If this function button is selected in combination with a marked, blank line, the window with the **Coding wizard** opens.

**Extend test plan...**: The **Transfer diagnostic objects to test plan** window appears, in which the diagnostic objects linked to available codes are displayed. These diagnostic objects can be added to the test plan. Not all complaints have linked diagnostic objects. The test plan cannot be extended in these cases. A detailed explanation of this function is available later on in this section.

⇨ **Reference:**

See also "Extend test plan" section.

**Display TPI list**: All TPI that corresponds to a customer code of a selected complaint are displayed, if available. The application automatically switches to the **TPI** tab and opens the **Display TPI** window on the **TPI list** tab. This function is only available for complaints from the DISS system and for customer complaints with all mandatory fields filled. For access to DISS, login to the Group systems is required.

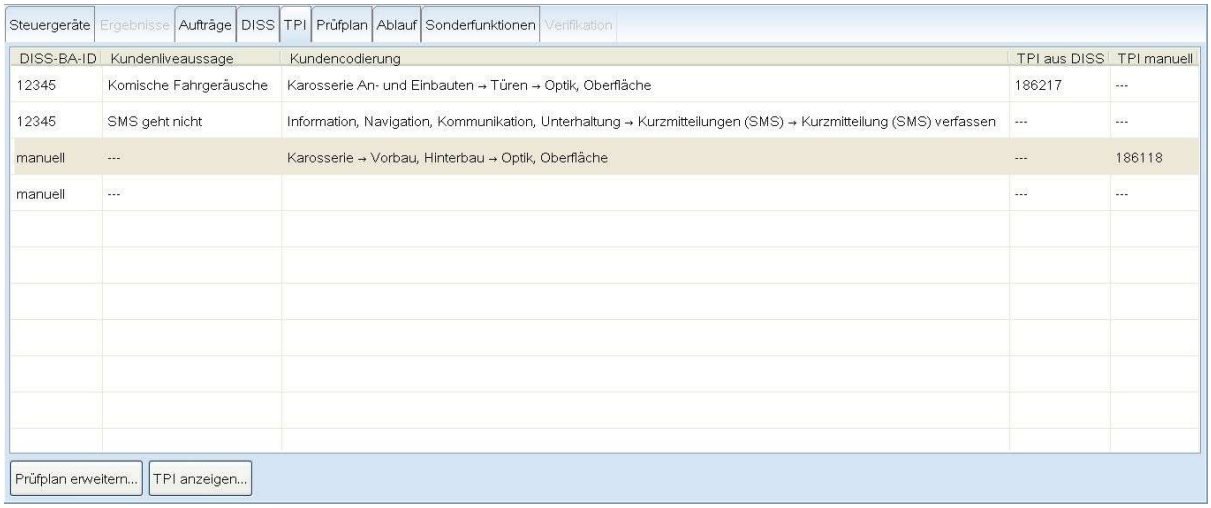



**Figure 6.58. View of the TPI tab**

The **TPI** tab shows the same table list with complaints as the **DISS** tab, with the additional **TPI manually**, in which the manually entered TPI is displayed.

**Extend test plan:** Opens the **Transfer diagnostic objects to test plan** window.

**Display TPI:** Opens the **Display TPI** window in the **TPI numbers** tab view. The TPI for the selected complaint is displayed.




**Figure 6.59. Displaying a selected TPI number**

Further TPI can be accessed from **ElsaPro** and viewed. Enter the desired TPI number in the **TPI number** field for this and press the **Display** button.

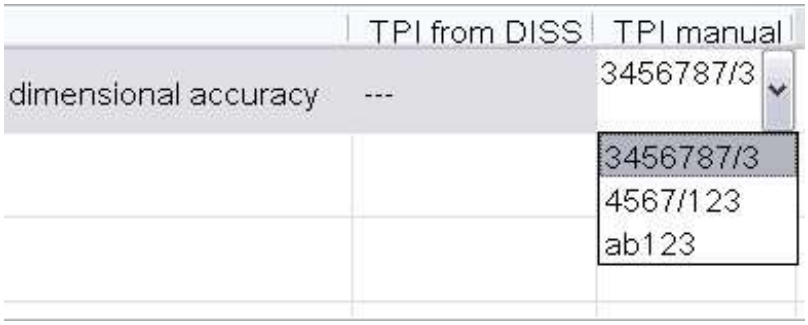



**Figure 6.60. Entering TPI manually**

**Adding TPI manually:**

The **Display TPI** dialogue box provides the option of using the **TPI number** field to enter TPI numbers in the **TPI manually** column on the **TPI list** and **TPI number** tabs. For this, enter the TPI number in the field and click on the **Apply** button to assigned it as a manual TPI to the marked complaint. The **Apply** button is only enabled for new TPI numbers. All manually entered TPI are listed in the dropdown list.

**Extend test plan:**

If the **Extend test plan** button is pressed for a marked complaint on the **DISS** tab or on the **TPI** tab, the **Transfer diagnostic objects to test plan** dialogue appears.

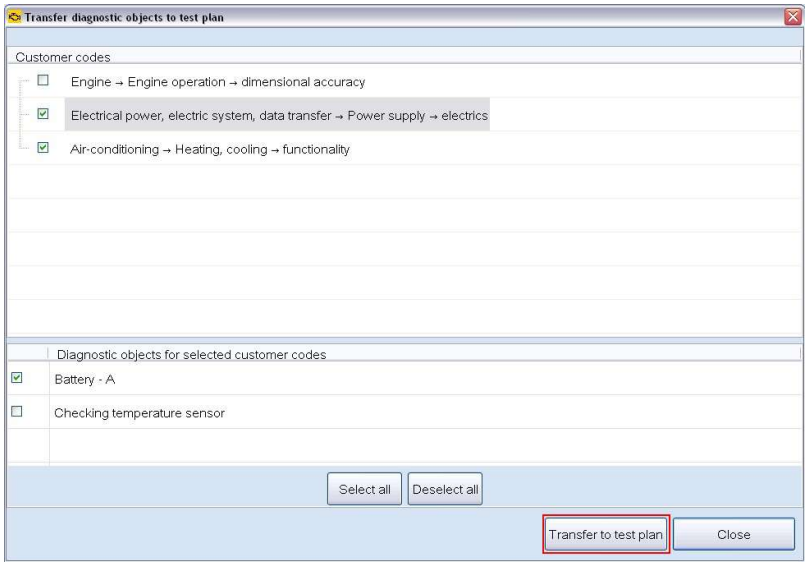

Transfer diagnostic objects to test plan
Customer codes
Engine → Engine operation → dimensional accuracy
Electrical power, electric system, data transfer → Power supply → electrics
Air-conditioning → Heating, cooling → functionality
Diagnostic objects for selected customer codes
Battery - A
Checking temperature sensor
Select all
Deselect all
Transfer to test plan
Close

**Figure 6.61. Transferring a diagnostic object to the test plan**

This dialogue lists all complete **customer codes**, including manual ones, that belong to the current order. The customer codes and their TPI from DISS are displayed in the top half of the dialogue. The diagnostic objects of the selected TPI are displayed in the bottom half, if available.

The customer code/TPI called using the **Extend test plan** function is selected automatically. The diagnostic objects of this selected customer code/TPI are also displayed automatically.

The diagnostic objects can either be selected or deselected individually by clicking on the tick in the left-hand column or all in one go.

**Select all:** All diagnostic objects are selected.

**Deselect all:** All diagnostic objects are deselected.

**Transfer to test plan**: Click on this button to transfer the diagnostic objects for the selected customer codes/TPI to the test plan calculation. Customer codes/TPI already transferred to the test plan and their diagnostic objects are greyed out in the list view. They cannot be transferred to the test plan again.

**Cancel:** No diagnostic objects are transferred and the dialogue box is closed.

Diagnostic objects are only displayed for marked customer codes/TPI.

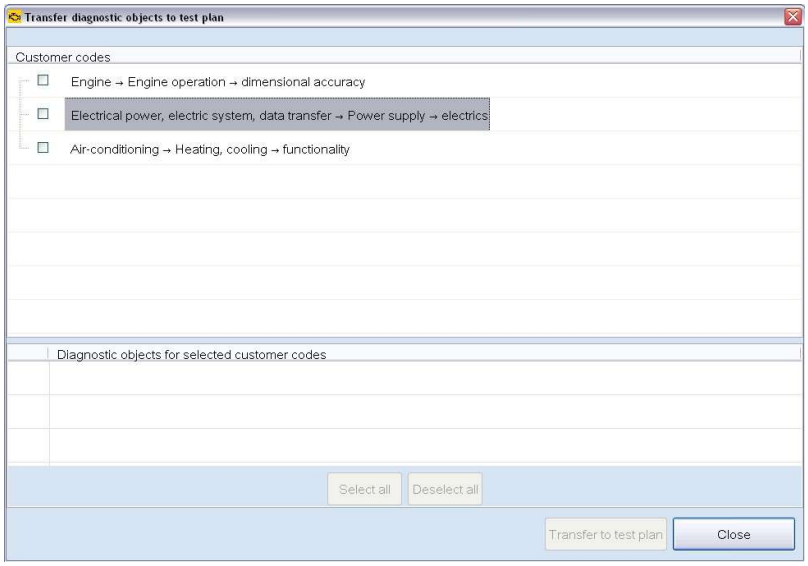

Transfer diagnostic objects to test plan
Customer codes
Engine → Engine operation → dimensional accuracy
Electrical power, electric system, data transfer → Power supply → electrics
Air-conditioning → Heating, cooling → functionality
Diagnostic objects for selected customer codes
Select all
Deselect all
Transfer to test plan
Close

**Figure 6.62. Deselected customer code**

No customer code is selected in the figure above, which is why no diagnostic objects are displayed in the list at the bottom.

**Close:** The dialogue box is closed.

**Note:**

Test programs added to the test plan as the result of a new assessment by diagnostic objects added can only be removed on the **Test plan** tab.

**Reference:**

See also chapter "Using GFF"

For selected customer codes, you can call the **overall view** using the context menu and the right mouse button.

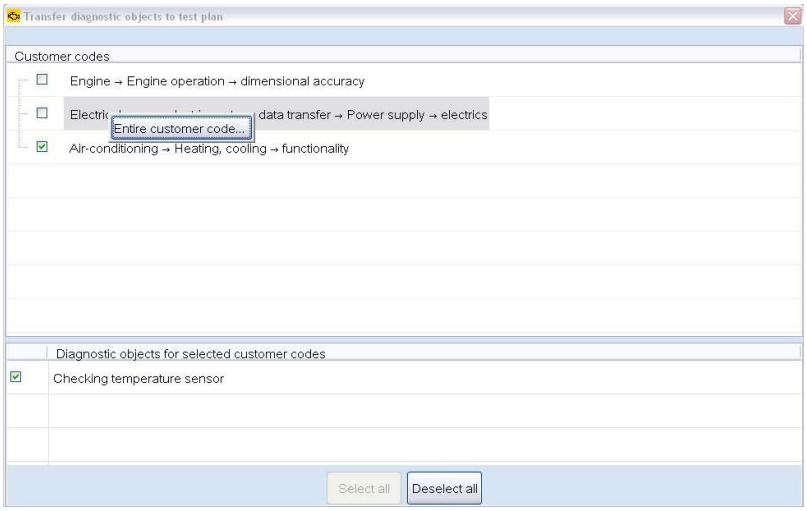

Transfer diagnostic objects to test plan
Customer codes
Engine → Engine operation → dimensional accuracy
data transfer → Power supply → electrics
Entire customer code...
Air-conditioning → Heating, cooling → functionality
Diagnostic objects for selected customer codes
Checking temperature sensor
Select all
Deselect all

**Figure 6.63. Selecting the overall view**

This function corresponds to the **Entire customer code** function described above.

**Close:** The dialogue box is closed.

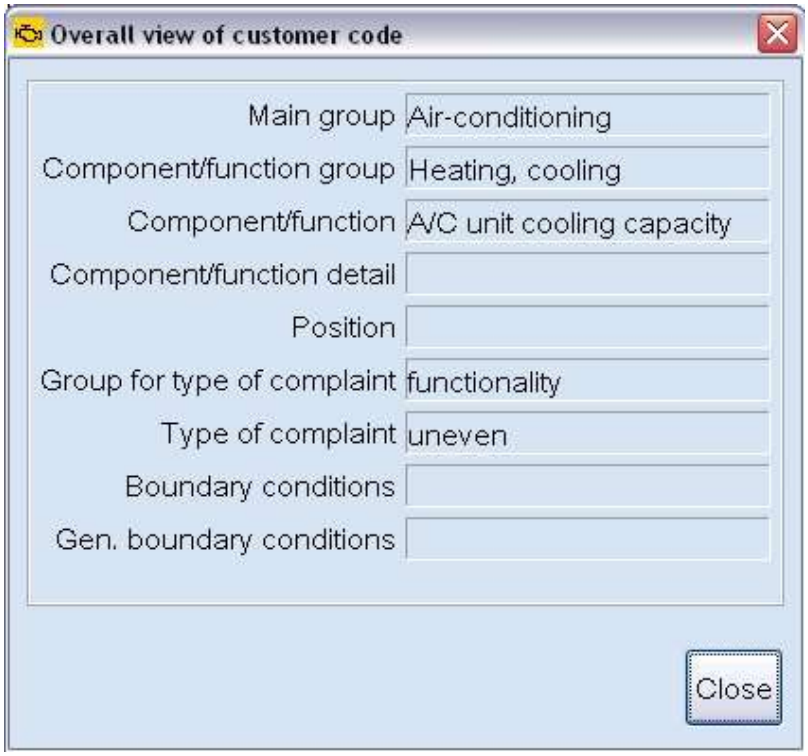



**Figure 6.64. Overall view of customer code**

The **Overall view of customer code** displays all code levels of the coding wizard with the available entries.

**Close:** The overall view is closed.

After editing the DISS complaints, the creation of the test plan can be completed.

## 6.3.2.1. Coding wizard

The **coding wizard** is used as follows:

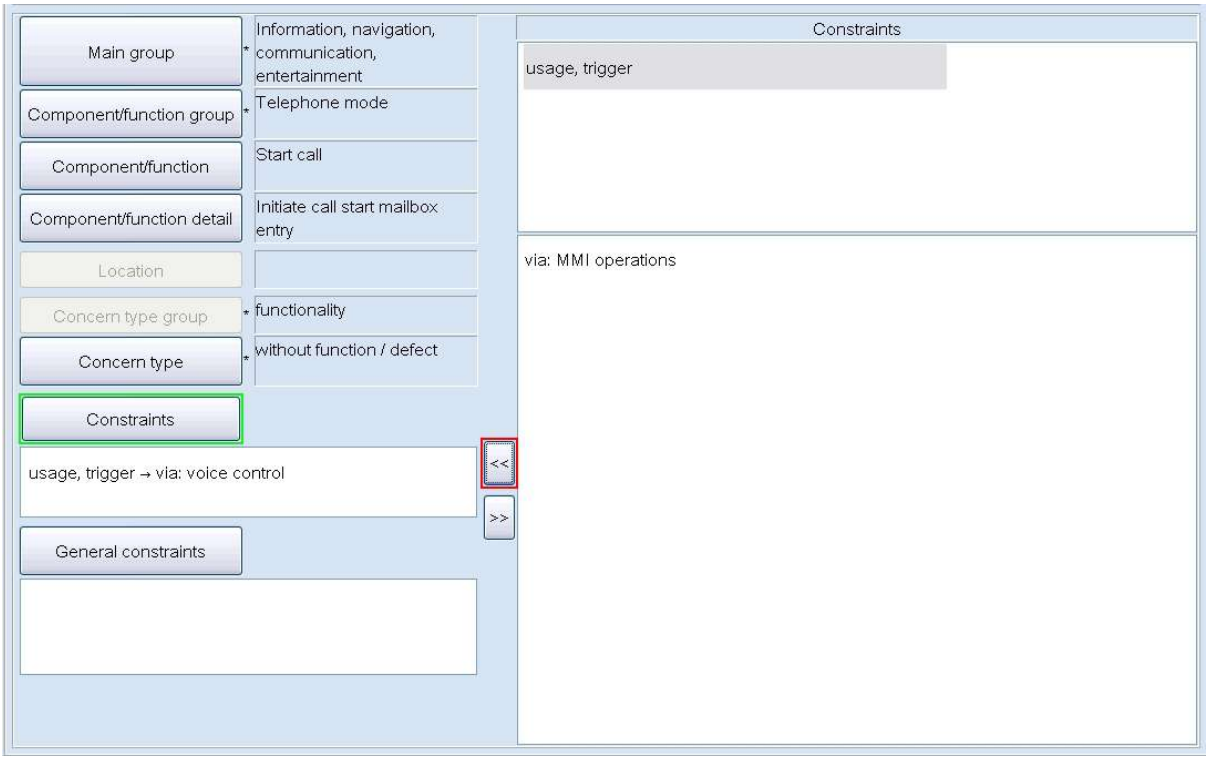



**Figure 6.65. Coding wizard**

The coding wizard can be used to make entries in the fields for the customer code. To simplify the process, the coding wizard specifies the code fields required step by step in the correct technical order with a **green border**.

The code levels to be completed are on the left in the form of buttons, i.e. groups and sub-groups of **components/functions**, **complaint types**, **boundary conditions** and **gen. boundary conditions**. Fields in which the selected code values are displayed are next to the buttons. When an entry is made in a code field, all buttons of the subordinate fields that can now also be completed are enabled.

The corresponding values for the buttons with a green border for completing are displayed in the right-hand window, which are selected by clicking on them. The active button is displayed as the heading. The figure above shows the **Boundary conditions** button.

Boundary conditions and gen. boundary conditions are marked and inserted or removed by clicking on the direction buttons << or >> .

It is also possible to click on an enabled button on the left side, regardless of the coding wizard's proposals, which is then displayed with a green border and can then be completed. After completing them, the coding wizard continues with its proposed specifications as described above.

**Note:**

Fields on the right with an ***** are **mandatory fields** that must be completed so that manual customer codes can be added to the test plan.

The **General boundary conditions** field includes boundary conditions not assigned directly to the customer code. If completed, it will not be possible to find any diagnostic objects for the current customer code.

# 6.3.3. Special functions

In addition to the test plan in guided fault finding, further test programs of the same name are available on the **Special functions** tab.

**Special functions** are **vehicle-specific test programs**. They are not selected via basic characteristics or control units in the context of diagnostic start-up. Instead, they are provided from the database for individual vehicles.

To display tests available for the overall vehicle, click on the Special functions tab in **Diagnostics** mode.

**Note:**

In **Flash** mode, after vehicle and control unit identification the flash programs available for the vehicle are listed on the **Special functions** tab. There is no test plan in this mode.

**Reference:**

See also chapter "Using flash programs"

Examples of special functions in **Diagnostics** mode are Code immobiliser and Transport protection.

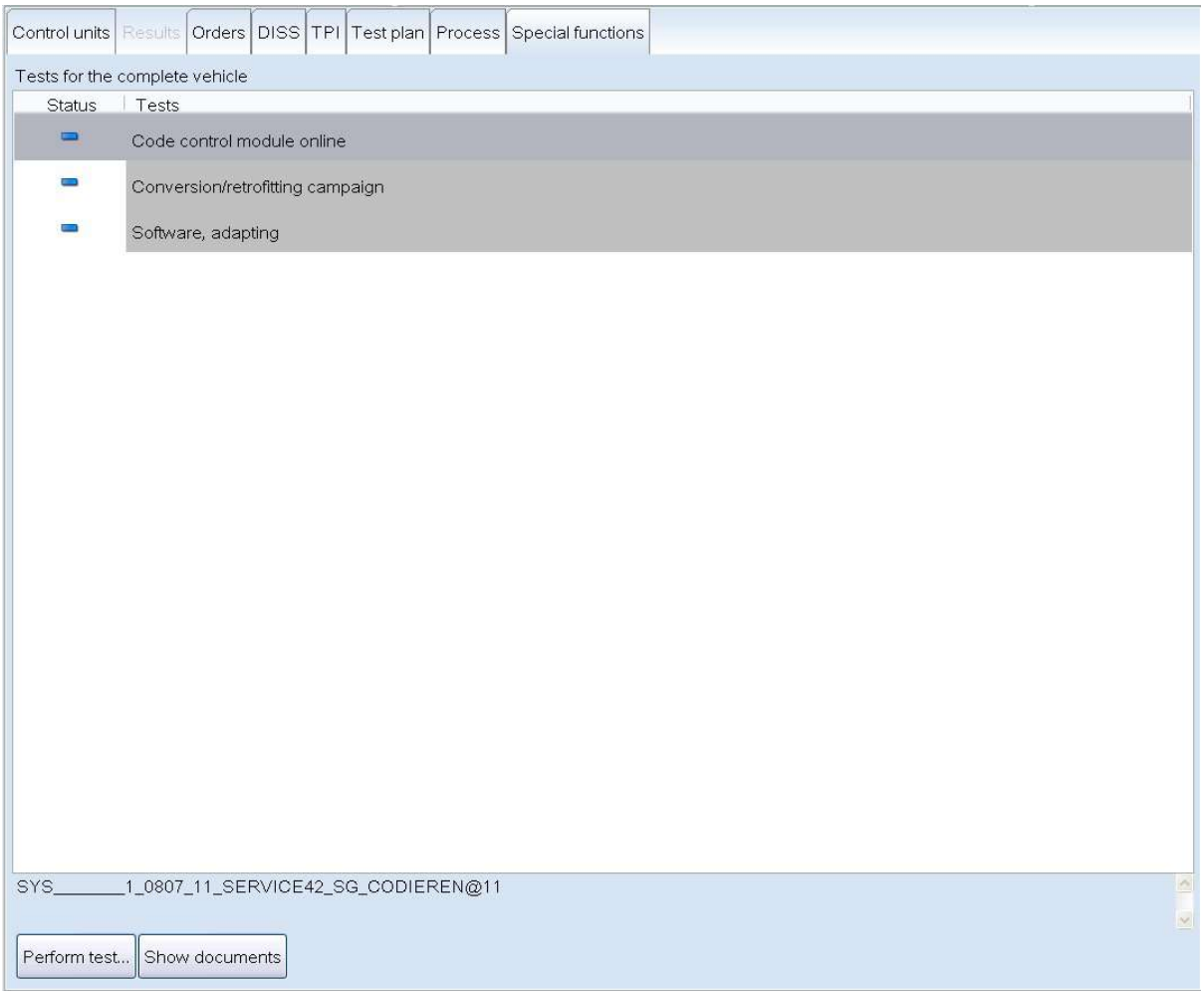



**Figure 6.66. Special functions view**

This view has two columns. The **Tests** column includes the test programs available for the vehicle. The **Status** column indicates the status of each test program.

⇨ **Reference:**

See also chapter "Using GFF"

**Perform test:** The selected test program is executed. To do this, **Offboard Diagnostic Information System Service** switches to the **Process** tab.

**Show documents:** The documents assigned to the vehicle are displayed. To do this, **Offboard Diagnostic Information System Service** switches to **Info** mode.

# 6.4. Using GFF

The focus of the **Using GFF** section is on the execution of Guided Fault Finding (GFF) tests.

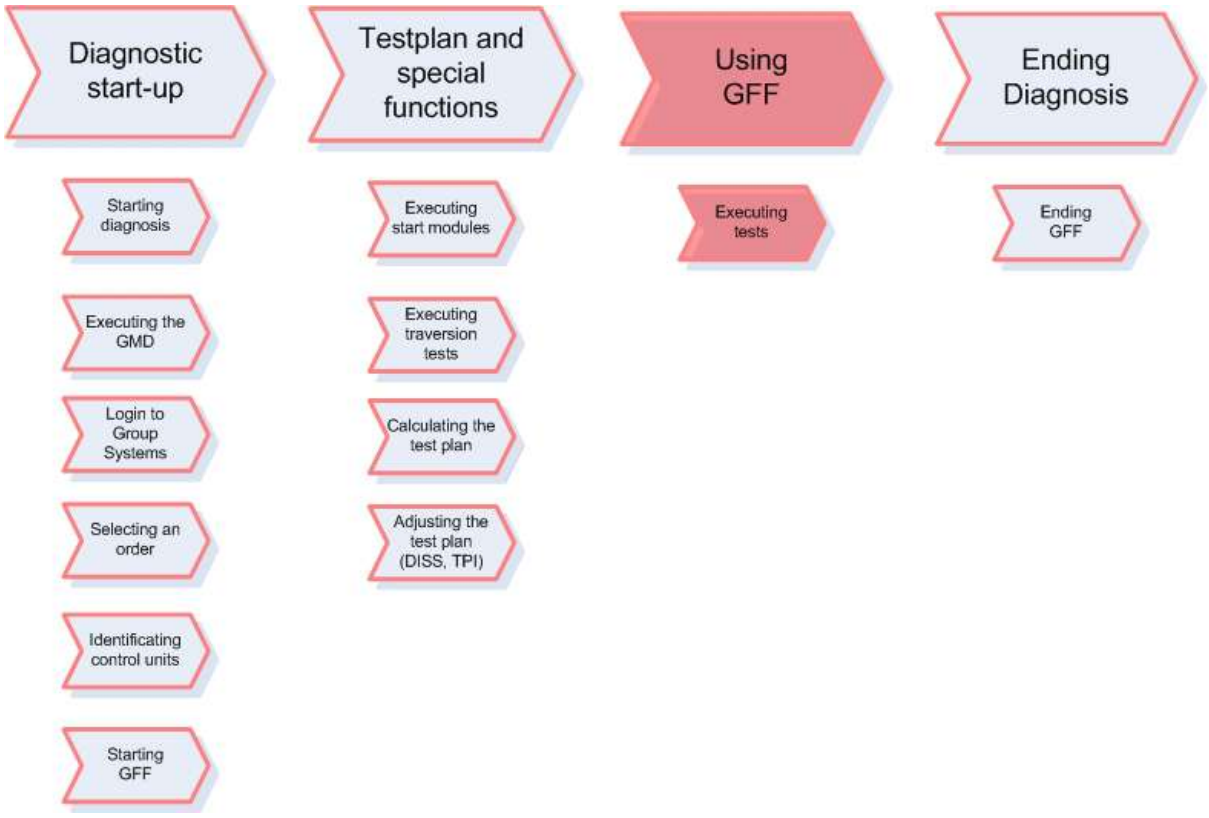



**Figure 6.67. Using GFF section**

After creating the test plan, click on the enabled **Test plan** tab to switch to the list of test programs.

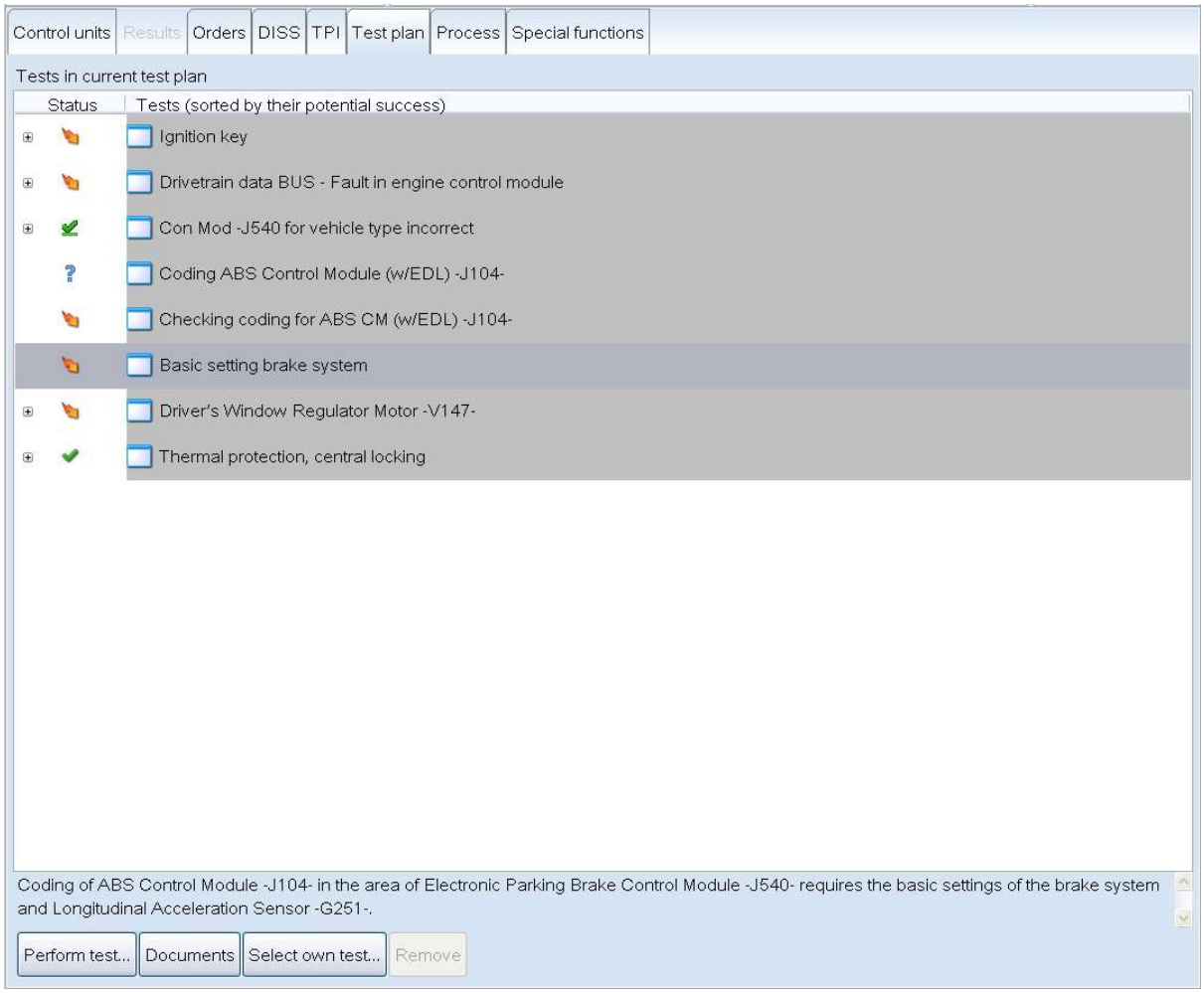

Control units
Results
Orders
DISS
TPI
Test plan
Process
Special functions
Tests in current test plan
Status
Tests (sorted by their potential success)
Ignition key
Drivetrain data BUS - Fault in engine control module
Con Mod -J540 for vehicle type incorrect
Coding ABS Control Module (w/EDL) -J104-
Checking coding for ABS CM (w/EDL) -J104-
Basic setting brake system
Driver's Window Regulator Motor -V147-
Thermal protection, central locking
Coding of ABS Control Module -J104- in the area of Electronic Parking Brake Control Module -J540- requires the basic settings of the brake system and Longitudinal Acceleration Sensor -G251-.
Perform test...
Documents
Select own test...
Remove

**Figure 6.68. Test plan view**

The **Test plan** tab contains a table with the available tests. This table has two columns.

**Status:** This column has a symbol indicating the status of the test.

This symbol shows that the status is "Test not yet performed".

This symbol shows that the status is "ok". This test was successful.

This symbol shows that a test has been cancelled by the user.

This symbol shows that the status is "not ok". The test failed.

This symbol shows that no status could be determined for the execution of the program.

This symbol shows that diagnosis has been created and that the component has been repaired.

**Tests:** This column contains the possible **test programs** sorted by their potential success.

**Perform test:** This button is used to start a selected test. For this, **Offboard Diagnostic Information System Service** switches to the **Process** tab.

**Documents:** This button can be used as an option to display documents either for the test plan or for a test program selected. For this, **Offboard Diagnostic Information System Service** switches to the **Info** tab.

**Select own test:** This button can be used to open the **Overview of tests** window that can be used to add one's own test programs to the test plan for individual diagnostic objects of the vehicle.

**Remove:** This button can be used to remove one's own manually added test program from the test plan again.

**Reference:**

Further explanations.

For the **documents** provided in guided fault finding, further descriptions are available in the chapter "Info mode/ Documents/...".

To select a **test program** (test), either click on the text line highlighted in grey or on the corresponding symbol.

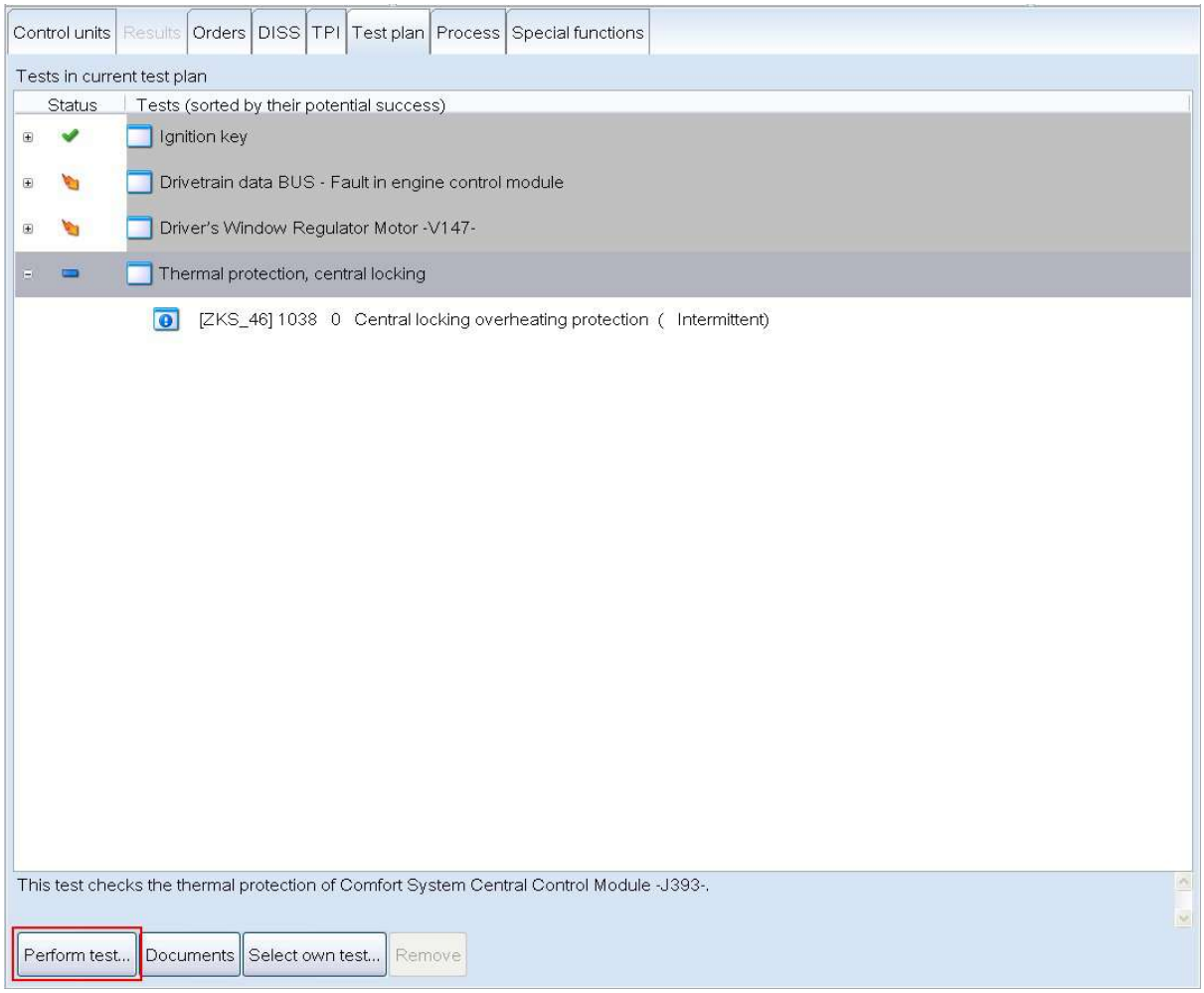



**Figure 6.69. Activating a test in the test plan**

The **Perform test** button is enabled after clicking on it.

The content of the selected test program is displayed below the list to explain it.

**Perform test:** To start the test program, click on this button.

**Offboard Diagnostic Information System Service** switches to the **Process** tab on which the instructions and input options for the test program started are displayed.

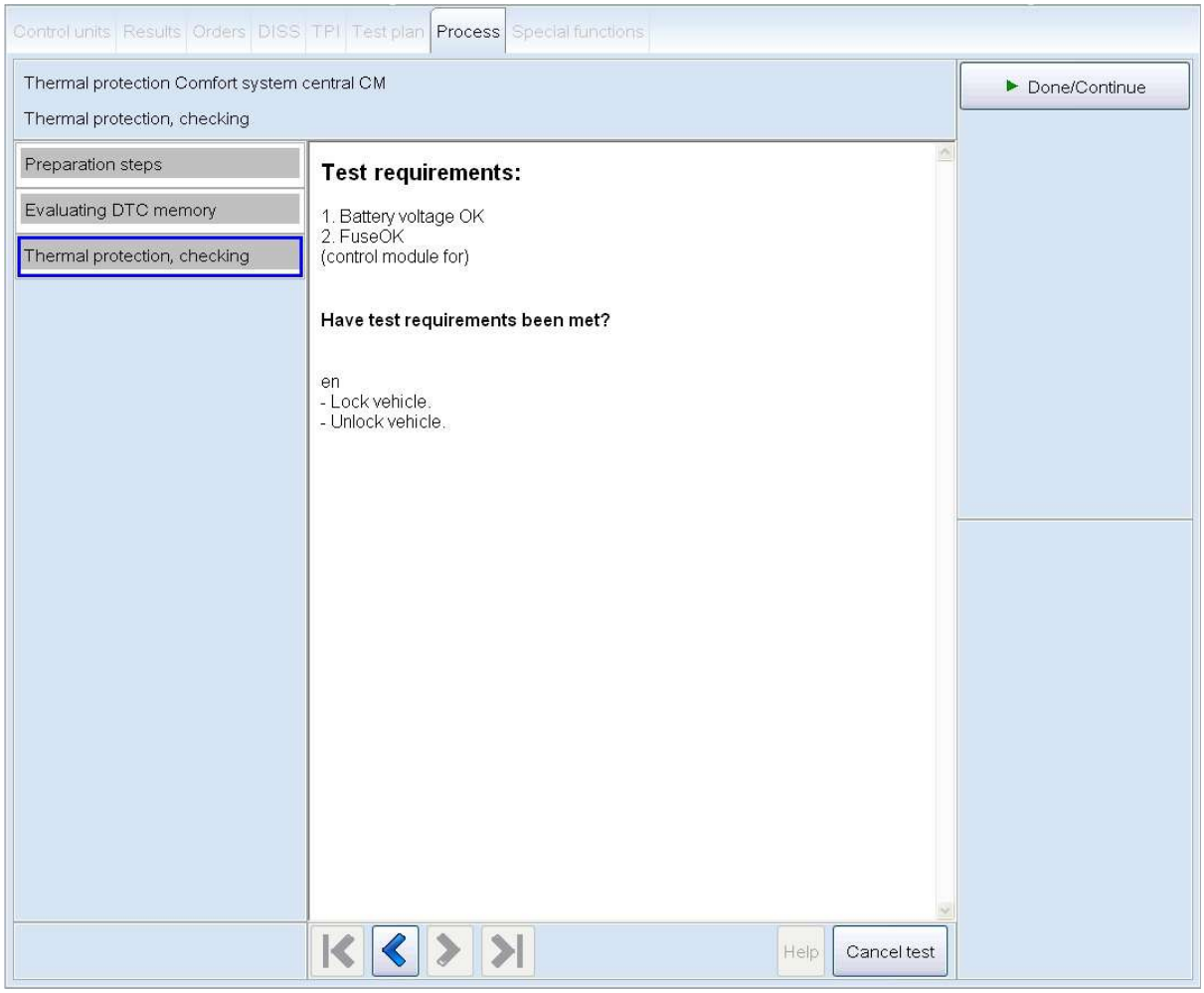



**Figure 6.70. Test view on the Process tab**

The name of the active test program is displayed at the top left (in the example above "Error in ECU"), with the name of the current individual step below it (in the example above "Message").

**Done/Continue**: This button is used to confirm a message and go to the next test step.

**Cancel test**: If the test is ended prematurely by clicking on this button, this cancelled test step is indicated by the  symbol on the **Test plan** tab under the **Status** column.

**Help:** This button is activated if a help text is available for the test program.

Use the navigation buttons below the messages to navigate within the individual messages.

 Back to the first message. This button is only active if there is more than one message.

 Shows the last message available. This button is only active if there is more than one message.

 Previous message

 Next message

The **Message and instruction window** is in the middle of the Process view.

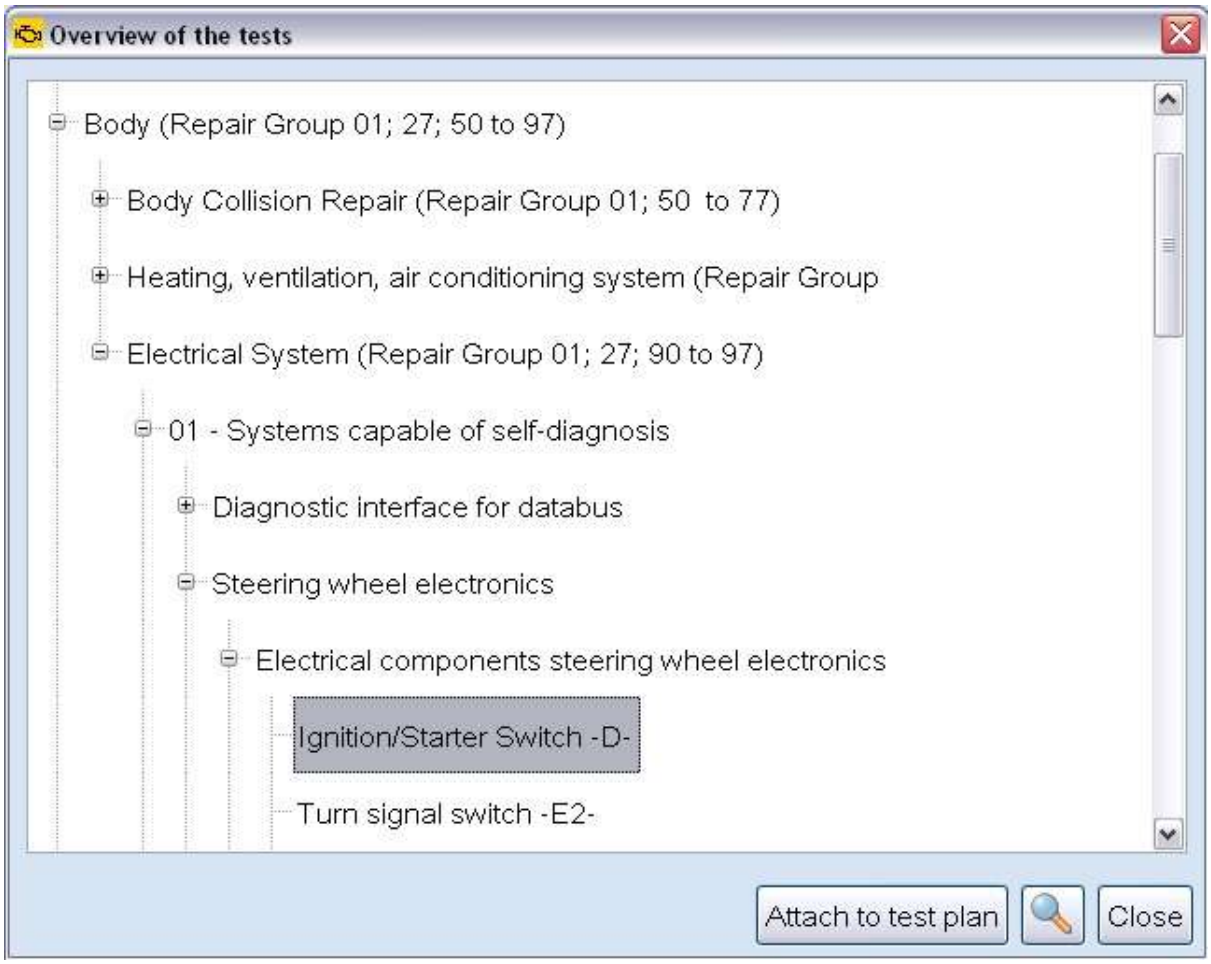

Overview of the tests
Body (Repair Group 01; 27; 50 to 97)
Body Collision Repair (Repair Group 01; 50 to 77)
Heating, ventilation, air conditioning system (Repair Group
Electrical System (Repair Group 01; 27; 90 to 97)
01 - Systems capable of self-diagnosis
Diagnostic interface for databus
Steering wheel electronics
Electrical components steering wheel electronics
Ignition/Starter Switch -D-
Turn signal switch -E2-
Attach to test plan
Close

**Figure 6.71. Message and instruction window during the test**

The message window for the test sequence contains information and instructions for the individual test steps.

The **individual steps** executed so far are listed on the left of the active test program.

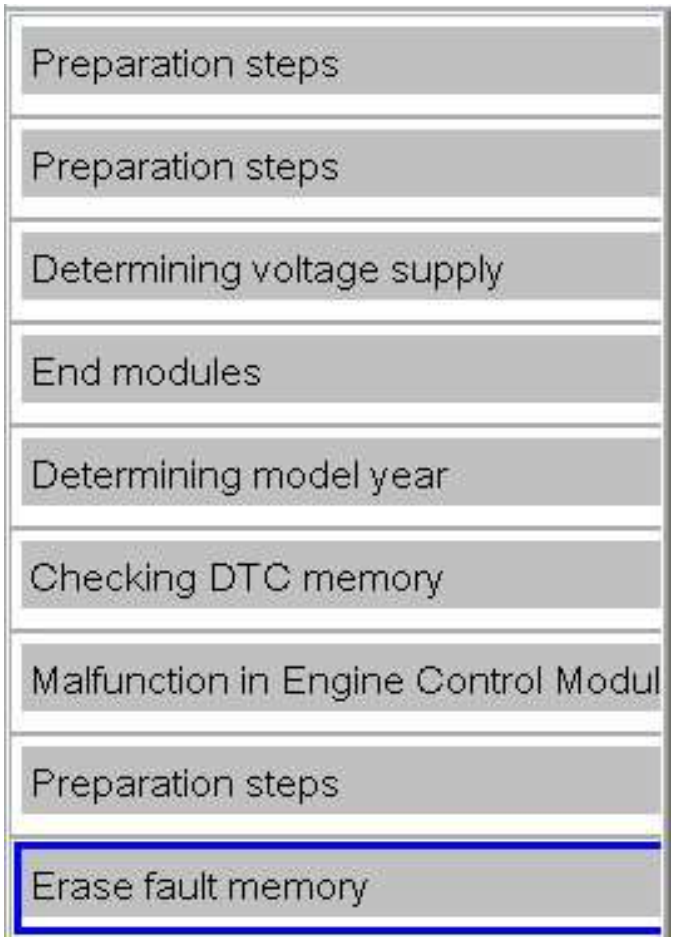



**Figure 6.72. Step sequence during the test**

The current test step is displayed within a blue border.

To view previously processed messages and instructions for fault finding, use the navigation buttons described above or click on the individual test steps to the left of the fault finding instructions (e.g.: **Test preparation steps, Select model, End modules, Event memory evaluation,** ...).

A test program can provide **alternative test steps** for selection.

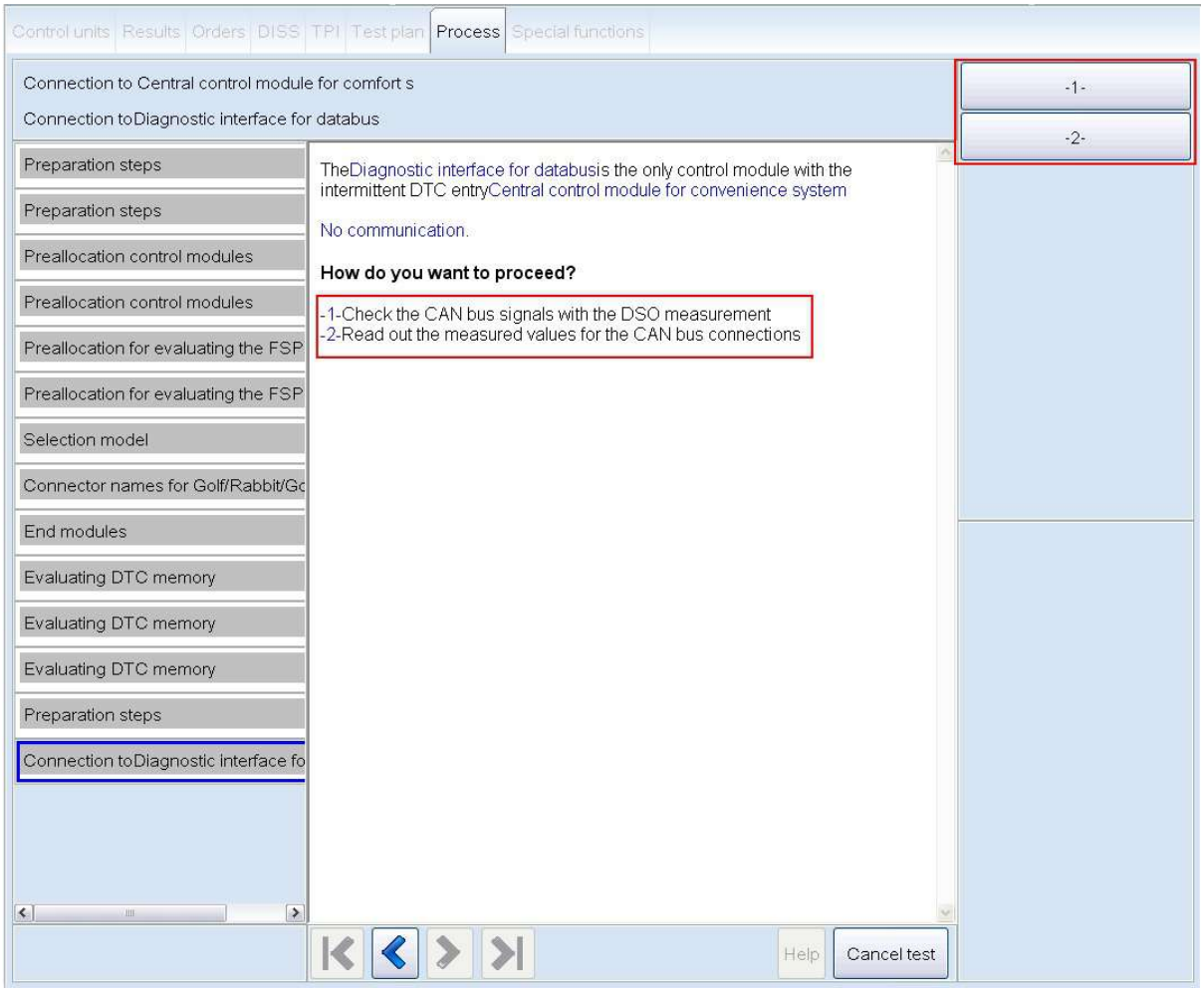



**Figure 6.73. Buttons for selecting alternative test steps**

As shown above in the example, use the numbered buttons (here **-1-** and **-2-**) to select the required action. To receive the next instructions for troubleshooting, click on the **-2-** button as shown in the example.

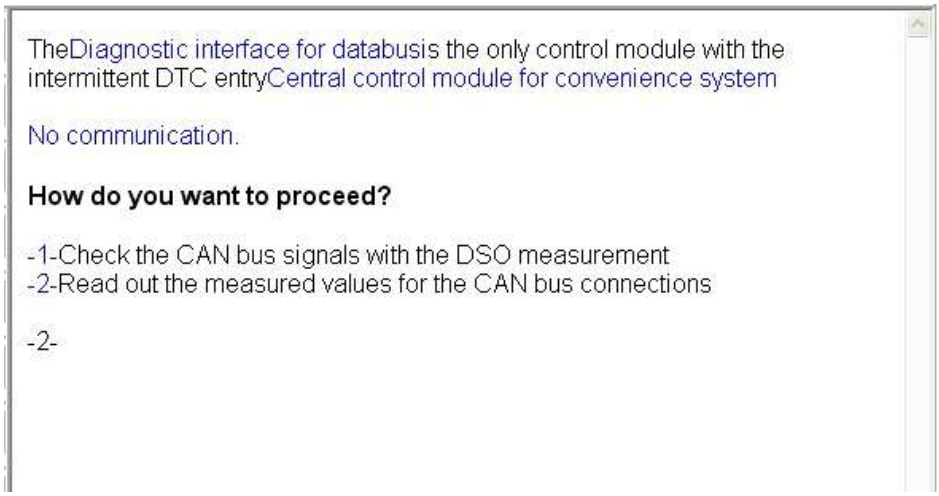

TheDiagnostic interface for databusis the only control module with the intermittent DTC entryCentral control module for convenience system
No communication.
How do you want to proceed?
-1-Check the CAN bus signals with the DSO measurement
-2-Read out the measured values for the CAN bus connections
-2-

**Figure 6.74. Displaying the selected test step**

The **-2-** button has been selected in this example; you can recognise it by the **-2** - below the selection options.

A test program can request **decisions** using buttons.

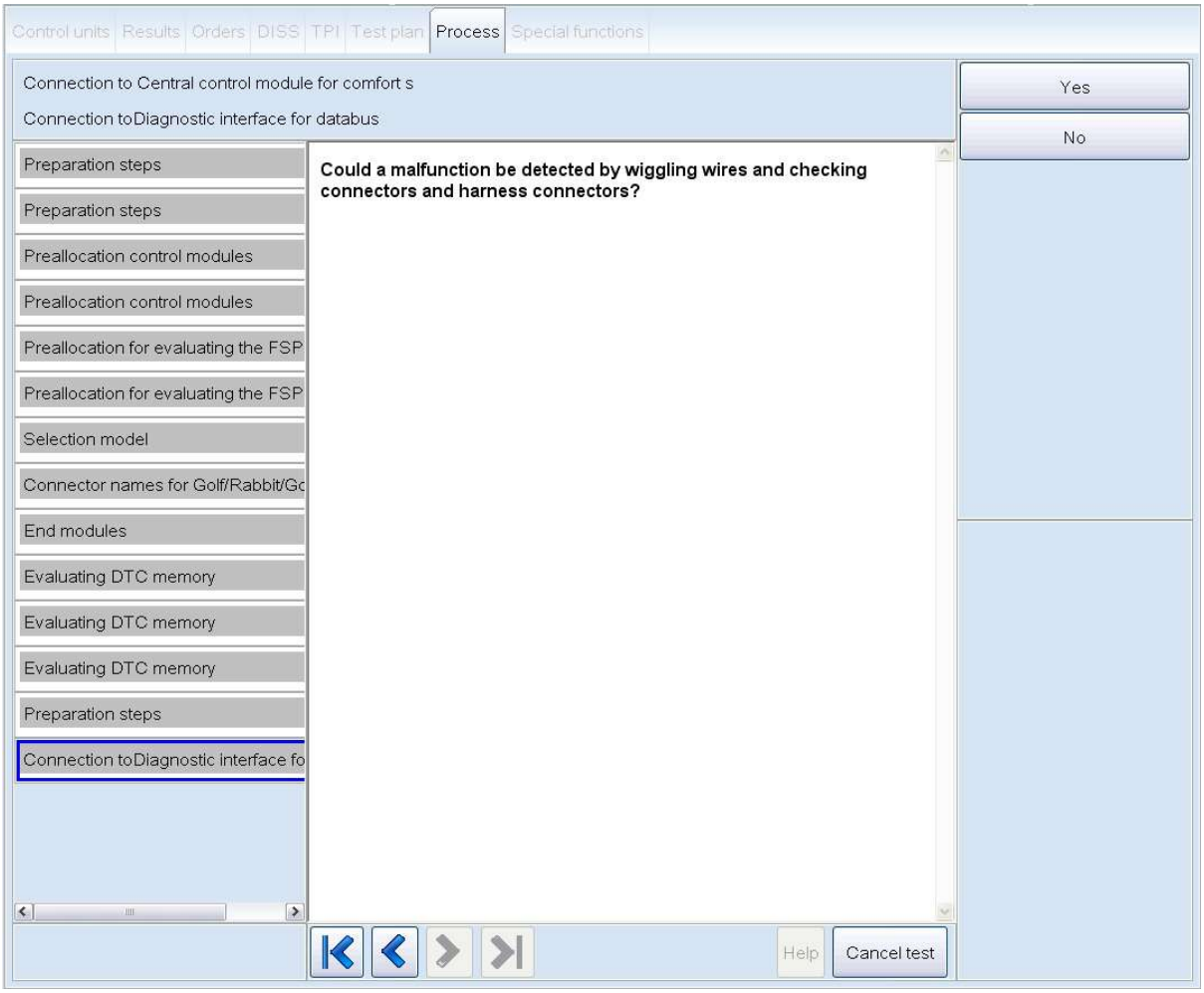



**Figure 6.75. Decision buttons in the test program**

In the example shown above, the question made in the test program requires a decision to be made by clicking on **Yes** or **No**.

The buttons shown here may have different captions, depending on the contents of the test program. It may also occur that the test program asks you to enter values, which you can do using the keyboard. In this case, an input window is opened instead of the button.

In addition, **documents** may be stored in test programs for individual test steps.

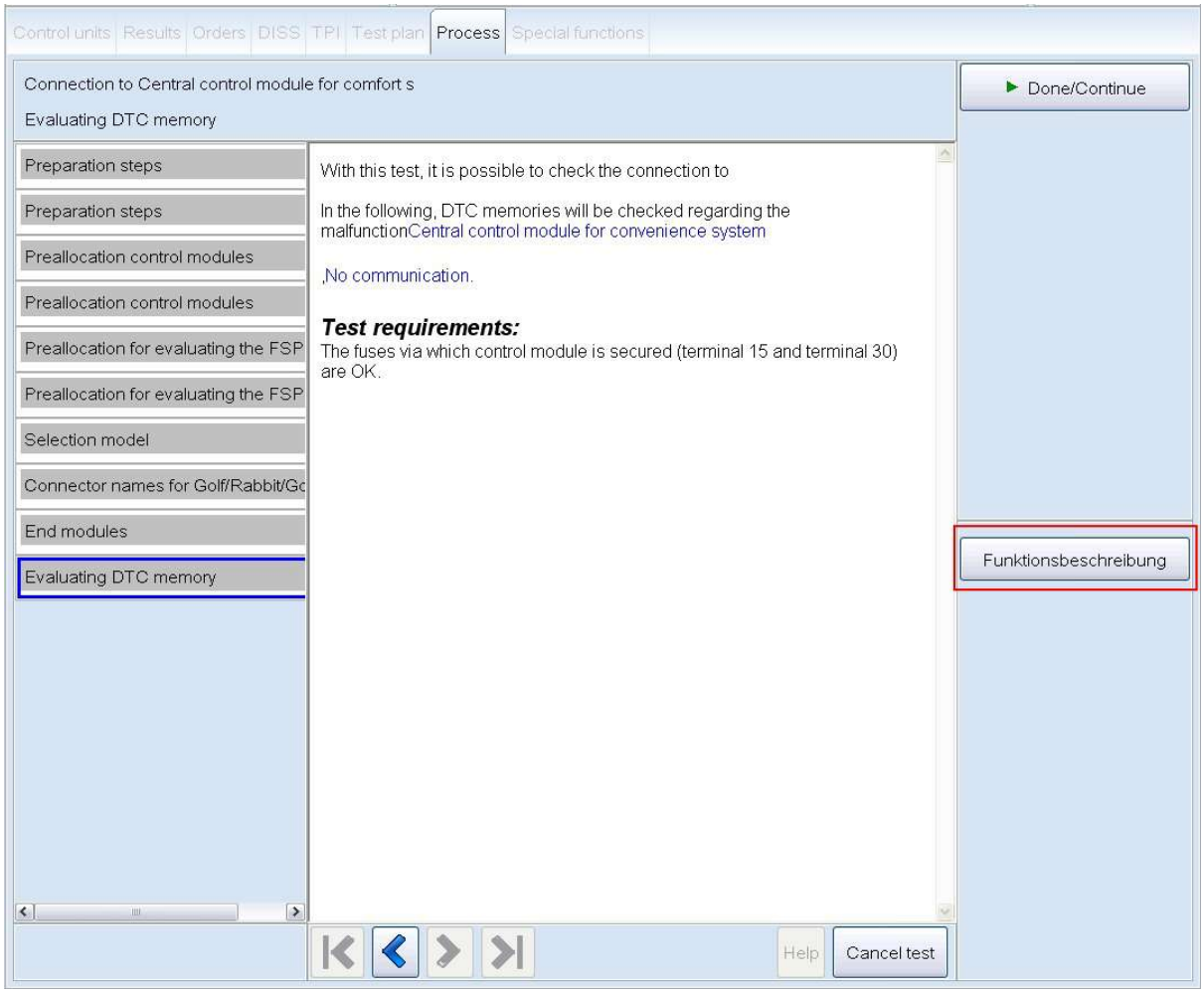



**Figure 6.76. Function descriptions in the test program**

The document is selected using the corresponding button, such as **Function description**. The name of the document and thus the button caption depend on the test program.

To display the corresponding document, click on the **Function description** button.

These are only documents integrated in the test programs.

**Local** and **global** documents may be assigned to a test program. Local documents apply to individual test steps and global documents apply to the entire test program.




**Figure 6.77. Local and global documents in the test program**

If several local and global documents are integrated in a test program, all local documents are combined in a block at the top and all global documents in a block at the bottom. Both blocks are clearly separated from each other. Documents with the same name are numbered in both blocks.

**Reference:**

More explanations on documents are available in the "Documents" chapter.

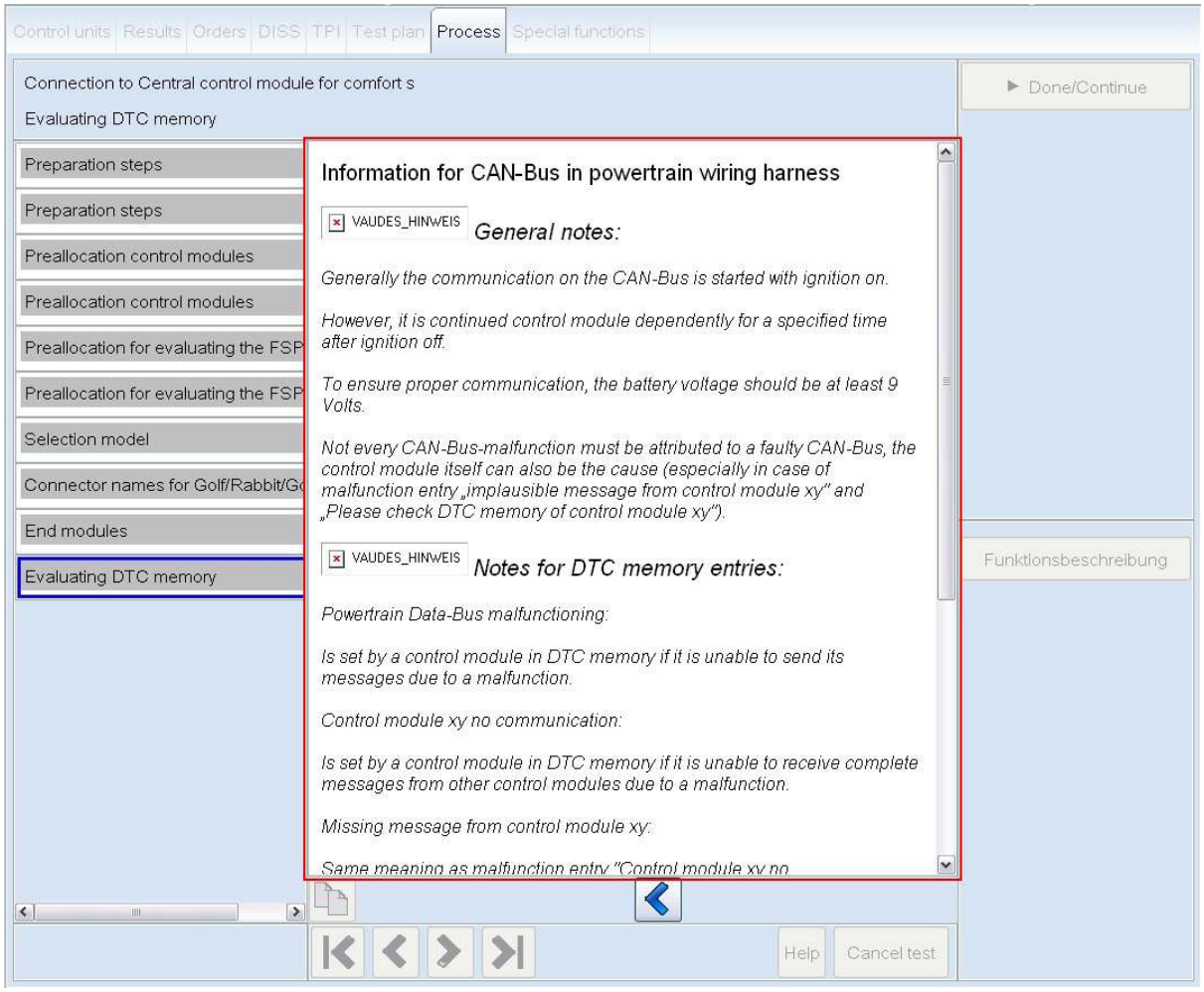

Control units
Results
Orders
DISS
TPI
Test plan
Process
Special functions
Connection to Central control module for comfort s
Evaluating DTC memory
Done/Continue
Preparation steps
Preparation steps
Preallocation control modules
Preallocation control modules
Preallocation for evaluating the FSP
Preallocation for evaluating the FSP
Selection model
Connector names for Golf/Rabbit/Gc
End modules
Evaluating DTC memory
Information for CAN-Bus in powertrain wiring harness
VAUDES_HINWEIS
General notes:
Generally the communication on the CAN-Bus is started with ignition on.
However, it is continued control module dependently for a specified time after ignition off.
To ensure proper communication, the battery voltage should be at least 9 Volts.
Not every CAN-Bus-malfunction must be attributed to a faulty CAN-Bus, the control module itself can also be the cause (especially in case of malfunction entry „implausible message from control module xy" and „Please check DTC memory of control module xy").
VAUDES_HINWEIS
Notes for DTC memory entries:
Powertrain Data-Bus malfunctioning:
Is set by a control module in DTC memory if it is unable to send its messages due to a malfunction.
Control module xy no communication:
Is set by a control module in DTC memory if it is unable to receive complete messages from other control modules due to a malfunction.
Missing message from control module xy:
Same meaning as malfunction entry "Control module xy no
Funktionsbeschreibung
Help
Cancel test

**Figure 6.78. Exiting the document view**

The document is displayed in the display and message window of the Process view.

 To return to the test program's test step from the document view and continue the test, click on this button.

After completing the test program, click on the **Done/Continue** button to finish the test. **Offboard Diagnostic Information System Service** switches back to the table view of the **Test plan** tab and you can continue with the next tests.

# 6.4.1. Test verification

A test program can be executed several times by selecting it and clicking on the **Perform test** button to restart it. If the test program has been run once successfully (green tick in the test plan view), a message appears asking whether **verification** is to be performed.

Verification mode allows other entries to be tried out than in the previous test to be able to check (verify) the previous result by confirmation or contradiction.




**Figure 6.79. Verification mode query**

**Yes:** Click on this button to restart the previously conducted and successful test. Depending on the type of test, this can be done with different parameters or selection options.

**No:** Click on this button to perform the previously conducted and successful test again with the same parameters.

# 6.4.2. Selecting components

The Test plan tab gives you the option of adding further tests on components of the vehicle or documents to the test plan.

To do this, on the **Test plan** tab click on the **Select own test...** button.

The **Overview of tests** window appears, displaying the vehicle's diagnostic objects. The desired test or document can be selected here via a tree structure.

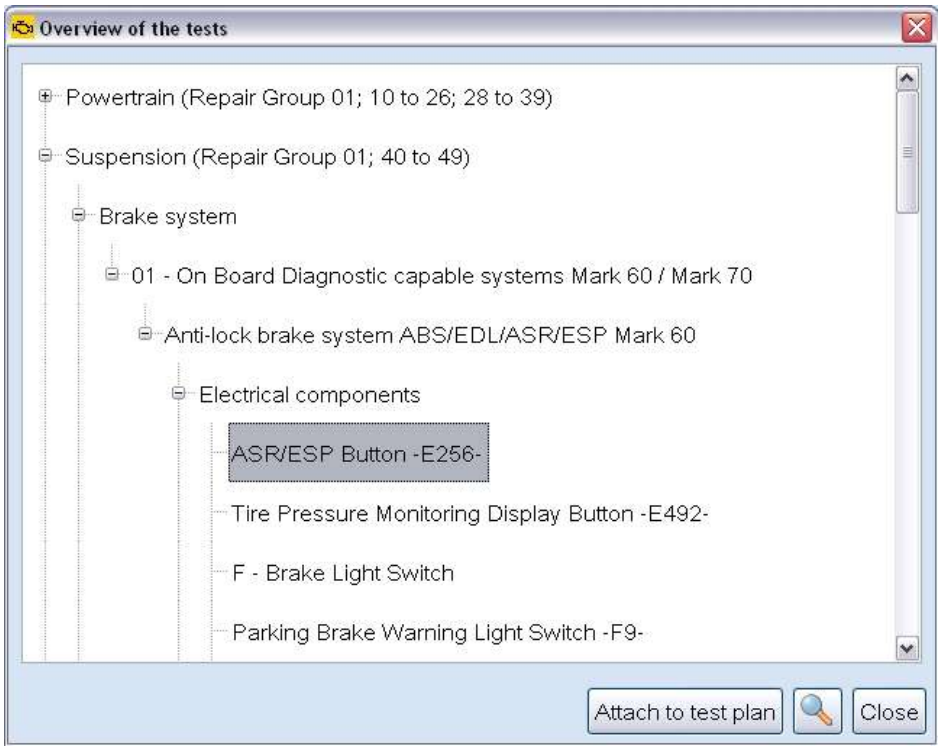

Overview of the tests
Powertrain (Repair Group 01; 10 to 26; 28 to 39)
Suspension (Repair Group 01; 40 to 49)
Brake system
01 - On Board Diagnostic capable systems Mark 60 / Mark 70
Anti-lock brake system ABS/EDL/ASR/ESP Mark 60
Electrical components
ASR/ESP Button -E256-
Tire Pressure Monitoring Display Button -E492-
F - Brake Light Switch
Parking Brake Warning Light Switch -F9-
Attach to test plan
Close

**Figure 6.80. Window for selecting tests**

Click on the **plus sign ( + )** to navigate down through the structure. In addition to components, documents can also be added to the test plan. Selected documents are executed like test programs.

**Add to the test plan:** After selecting the test required for a component or document, click on this button to apply the selection. A test program or document can also be selected by double-clicking on it.

Additional components or documents can now be added.

Manually added tests are at the end of the test plan.

You can use the **Remove** button on the **Test plan** tab to remove these test programs and documents from the test plan.

 To also search for a test using the search function, click on the **Search** symbol.

**Reference:**

See also chapter "Search function"

**Close:** The window is closed.

To start the test program for manually added components and documents, click on the **Perform test** button.

**Note:**

Tests and documents that have been added manually to the test plan are displayed in light blue.

**Note:**

Components that have been added manually to the test plan and have not yet been tested using the **Perform test** button will NOT be accepted if the test plan is calculated again.

# 6.5. Ending diagnosis

In the **End diagnosis** section, a diagnostic session is completed by erasing the event memory, executing end modules and the option of giving feedback.

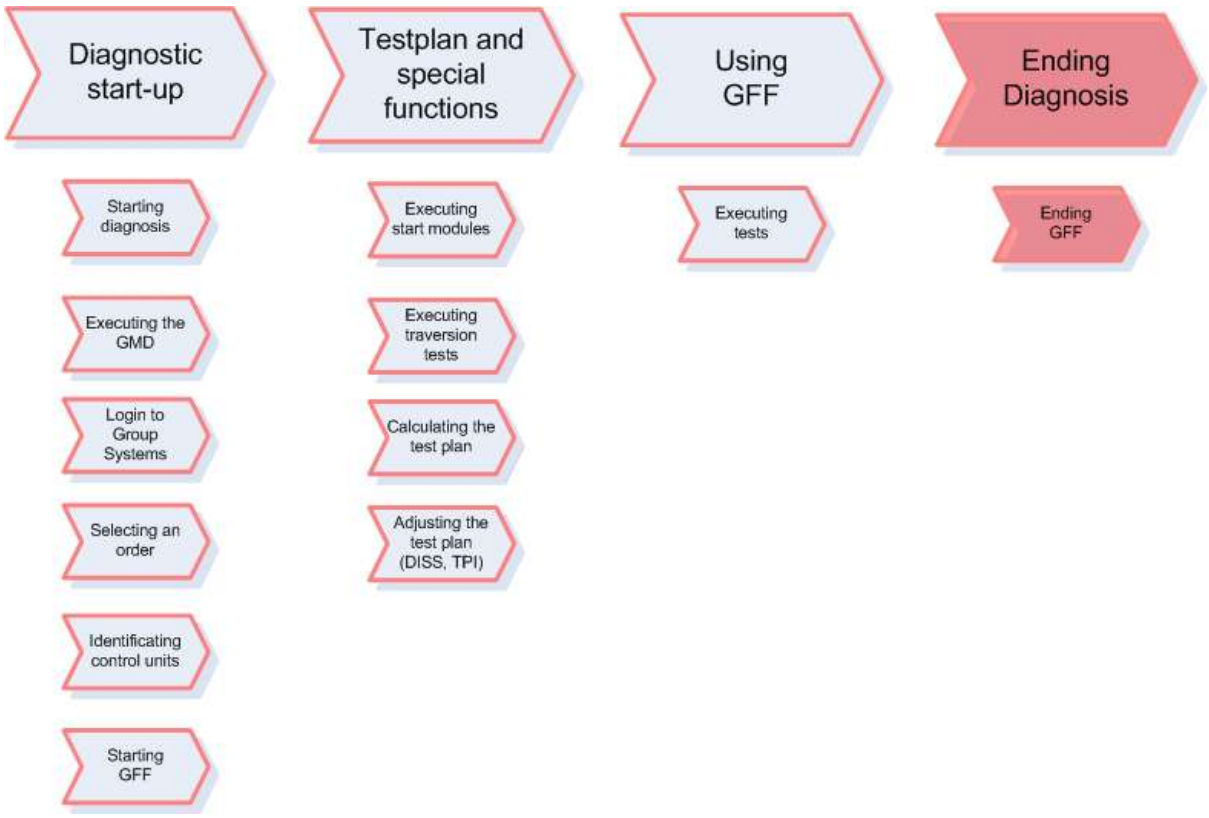



**Figure 6.81. End diagnosis section**

To end diagnosis, click on the **End diagnosis** button on the **Control units** tab.

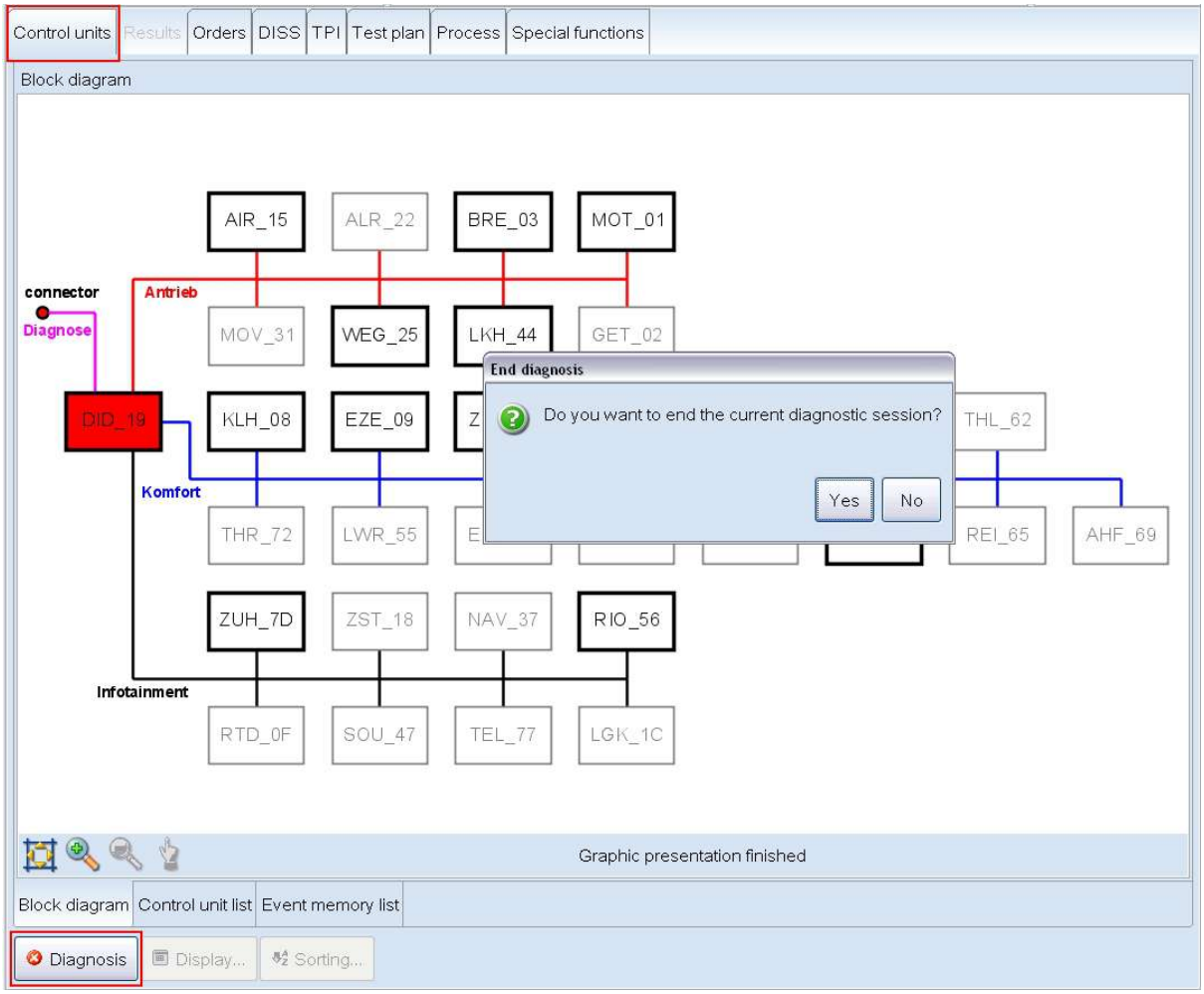



**Figure 6.82. Ending diagnosis**

Then, **Offboard Diagnostic Information System Service** opens the **End diagnosis** confirmation window asking **Do you want to end the current diagnostic session?**

**Yes:** The diagnostic session is ended.

**No:** The diagnostic session is not ended. It is continued in unchanged form.

On selecting **Yes**, **Offboard Diagnostic Information System Service** will ask you whether guided fault finding is to be continued in the **Exit GFF: Decision: exit GFF?** window. If not all tests of the test plan have been executed yet, the window contains a note informing you that the test plan has not been executed completely yet.

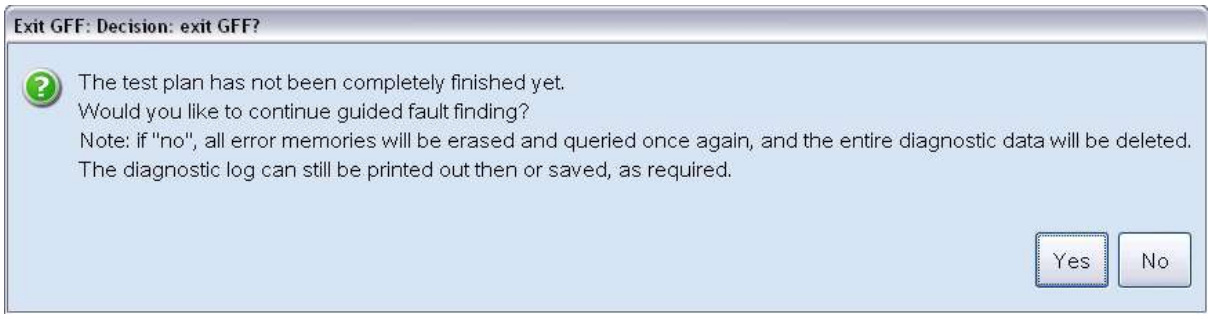

Exit GFF: Decision: exit GFF?
The test plan has not been completely finished yet.
Would you like to continue guided fault finding?
Note: if "no", all error memories will be erased and queried once again, and the entire diagnostic data will be deleted.
The diagnostic log can still be printed out then or saved, as required.
Yes
No

**Figure 6.83. Ending fault finding**

**Yes**: Guided fault finding is continued and **not** ended.

**No:** Guided fault finding is ended and exiting the diagnostic session is thus continued.

If the vehicle is changed during a diagnostic session, **Offboard Diagnostic Information System Service** asks whether the repair of the connected vehicle is to be continued or whether the current session is to be cancelled.

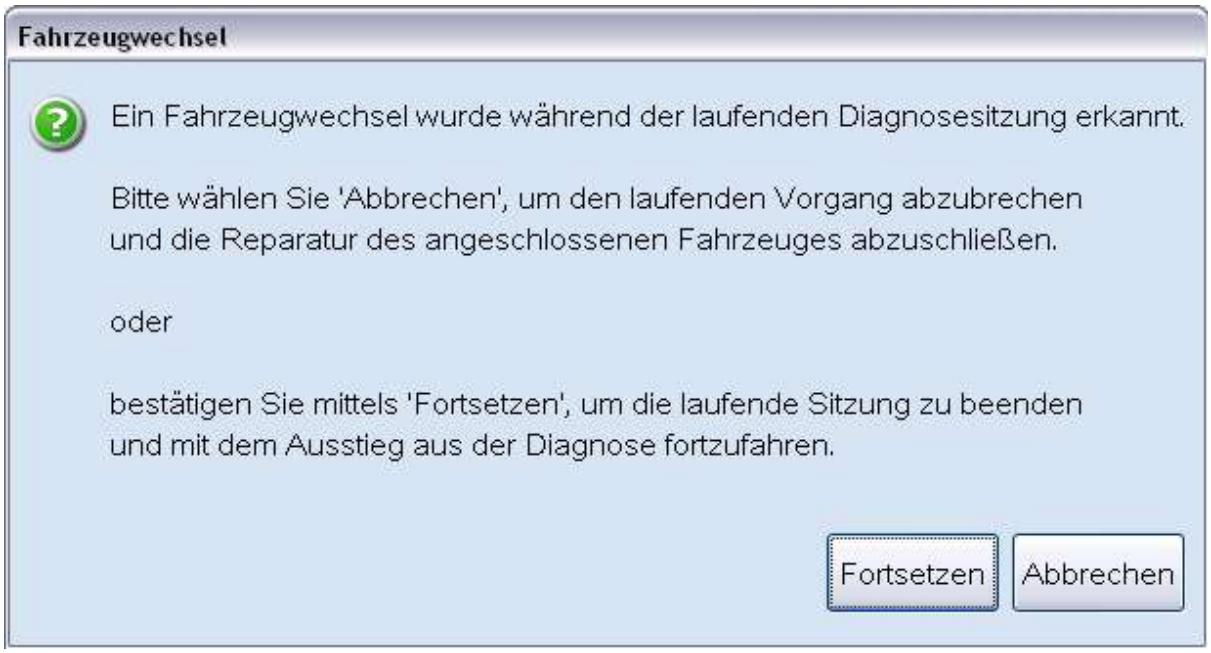

Fahrzeugwechsel
Ein Fahrzeugwechsel wurde während der laufenden Diagnosesitzung erkannt.
Bitte wählen Sie 'Abbrechen', um den laufenden Vorgang abzubrechen und die Reparatur des angeschlossenen Fahrzeuges abzuschließen.
oder
bestätigen Sie mittels 'Fortsetzen', um die laufende Sitzung zu beenden und mit dem Ausstieg aus der Diagnose fortzufahren.
Fortsetzen
Abbrechen

**Figure 6.84. Erasing the event memory**

**Continue**: Exiting the diagnostic session is continued.

**Cancel:** Click on this button to cancel the diagnostic exit and continue the repair of the connected vehicle.

If, during the repeated query of the event memories, new or previously set ones were found **Offboard Diagnostic Information System Service** will ask you whether a **new test plan** is to be calculated.

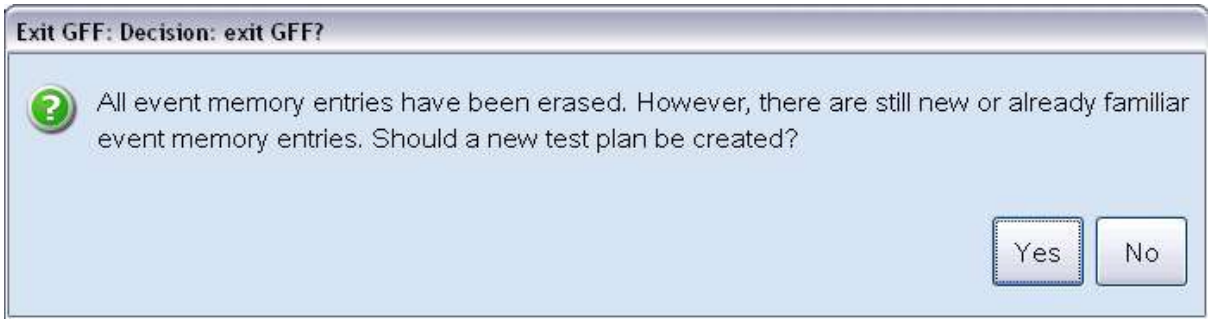

Exit GFF: Decision: exit GFF?
All event memory entries have been erased. However, there are still new or already familiar event memory entries. Should a new test plan be created?
Yes
No

**Figure 6.85. Erasing the event memory**

**Yes**: Click on this button to re-create the test plan, thus continuing guided fault finding.

**No:** No new test plan is created and exiting guided fault finding is continued.

In the next step for ending the diagnostic session, what are referred to as **end modules** are executed. These programs are based on the diagnosed vehicle model and its equipment variants. There is no group of defined end module programs. They are compiled individually by diagnostic editors for the existing vehicle models. Their sequence cannot be described for all vehicles in the same way. The program sequence may also deviate significantly.

The end module programs are executed like GFF test programs on the **Process** tab. Depending on the program, decisions might be required or questions might need to be answered.

**Note:**

The **readiness code** program is an **exception** to this rule. This program is an integral component of **Offboard Diagnostic Information System Service**, which is always executed when guided fault finding is ended.

The readiness code program is an end module created by diagnostic editors for **diesel vehicles** with **diesel particulate filter**. That is why the program sequences of these diesel vehicles may deviate.

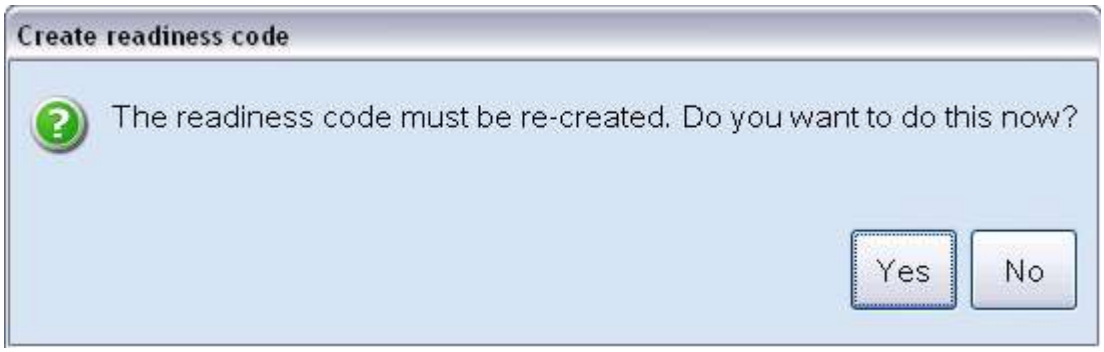



**Figure 6.86. Executing the program for the readiness code**

**Yes**: Click on this button to execute the test program for the readiness code.

**No:** The program for the readiness code is not executed.

In the last program on the Process tab, you will need to decide whether the **diagnostic protocol** is to be **sent** to support.

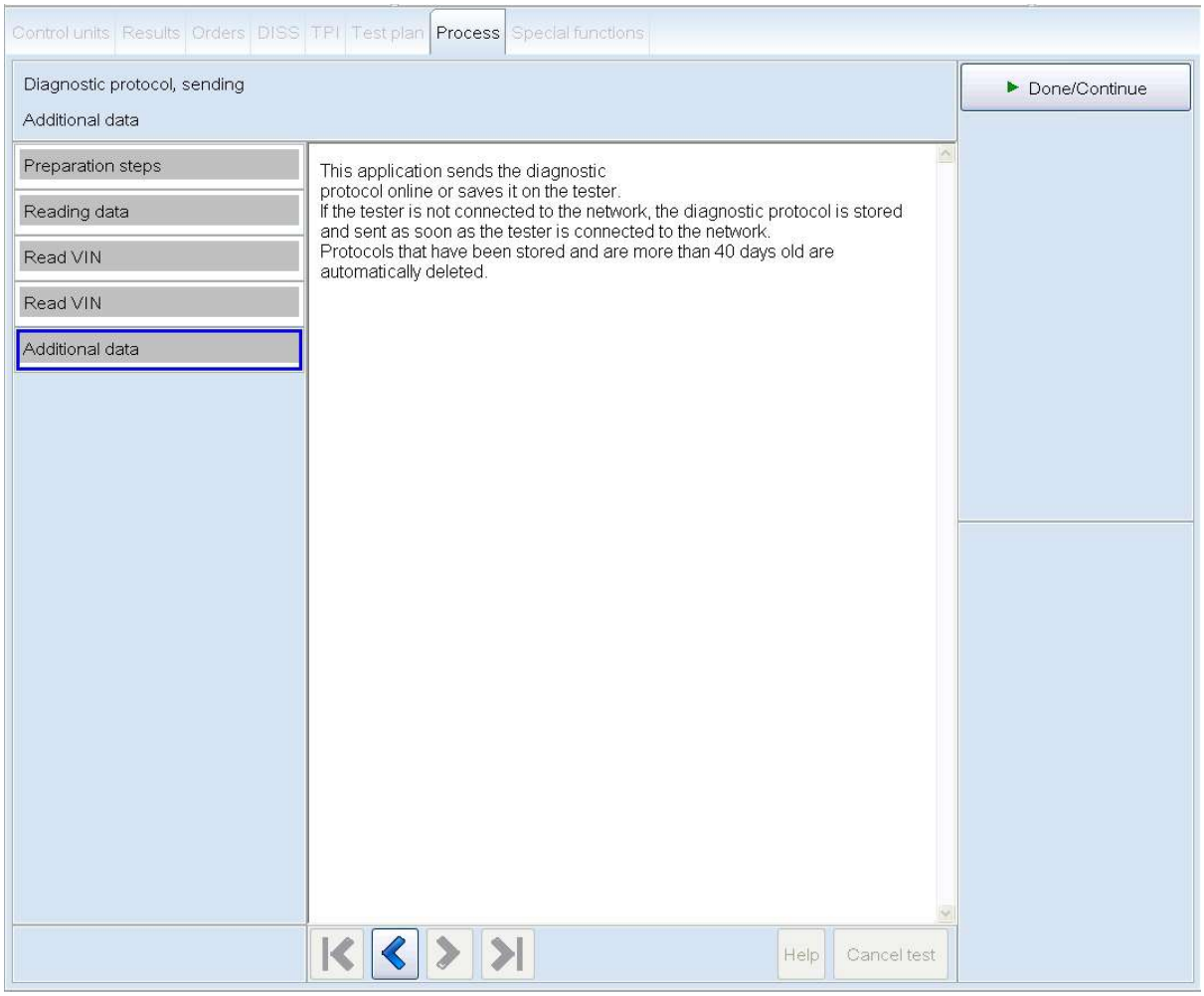

Control units
Results
Orders
DISS
TPI
Test plan
Process
Special functions
Diagnostic protocol, sending
Additional data
Done/Continue
Preparation steps
Reading data
Read VIN
Read VIN
Additional data
This application sends the diagnostic protocol online or saves it on the tester.
If the tester is not connected to the network, the diagnostic protocol is stored and sent as soon as the tester is connected to the network.
Protocols that have been stored and are more than 40 days old are automatically deleted.
Help
Cancel test

**Figure 6.87. Send diagnostic protocol?**

**Send:** The diagnostic protocol is automatically sent to support if there is a network connection. If there is currently no network connection, the diagnostic protocol is saved and sent the next time **Offboard Diagnostic Information System Service** is started.

**Skip:** The diagnostic protocol is not sent.

After executing the end modules, the **Exit GFF: print/save diagnostic protocol** dialogue appears which you can use to choose whether to **print or save a diagnostic protocol**.


Exit GFF: print/save diagnostic log
To print or save the diagnostic log
please press the corresponding button.
The "Continue" button is used to resume the diagnostic session.
Print
Save
Continue

**Figure 6.88. Print diagnostic protocol?**

**Print: Offboard Diagnostic Information System Service** transfers a formatted diagnostic protocol to the default Windows printer driver. It is opened and can be printed with all familiar Windows settings. The completion of the printout needs to be confirmed with OK. Then the **Exit GFF: print/save diagnostic protocol** dialogue is opened again.

**Save**: **Offboard Diagnostic Information System Service** opens the **Select diagnostic protocol** dialogue. After selecting the type of protocol, which can be cancelled, the Windows Save dialogue is opened for saving the protocol. After saving it or cancelling saving, the **Exit GFF: print/save diagnostic protocol** dialogue is re-opened.

**Reference**:

See also "Data" chapter for detailed information on selecting the type of protocol and on saving the protocol.

**Continue: Offboard Diagnostic Information System Service** continues to exit GFF.

Finally, **Offboard Diagnostic Information System Service** opens the **Send support request** dialogue. Here, you again have the option of sending the diagnostic protocol with a support request.

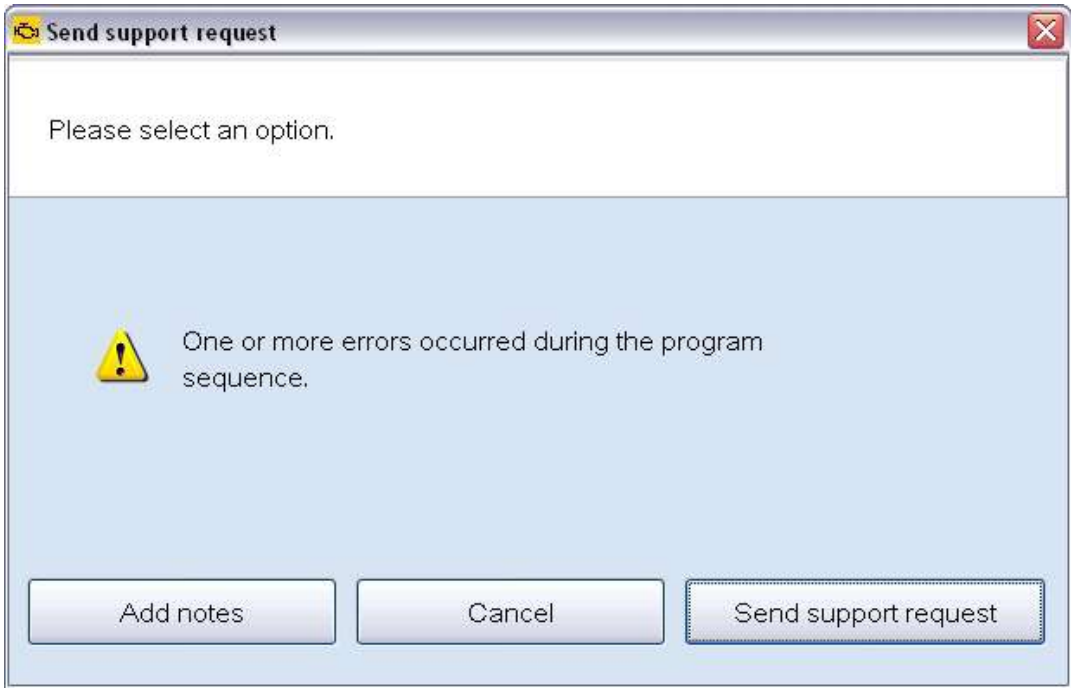



**Figure 6.89. Support request**

**Cancel**: The support request is cancelled and nothing is sent.

**Send support request:** An automatic support request is sent with diagnostic protocol.

If errors occurred during the program sequence, the support request may also be edited and your own comments and screenshots added.

**Add notes:** The feedback dialogue is opened for further editing. This button is only available on ending the diagnostic session if Offboard Diagnostic Information System Service detected any errors during the program sequence.

A precise description of the support request is available in the Feedback chapter.

**Reference**:

See also chapter "Feedback"

The diagnostic session is thus finished. **Offboard Diagnostic Information System Service** is in the start view of diagnostic mode.

# 6.6. Self-diagnosis

The following chapters describe under which circumstances self-diagnosis functions of the control units are available, in addition to guided fault finding, how the self-diagnosis functions are called and what the individual functions can do.

Self-diagnosis gives the user the option of accessing individual diagnostic functions of the control unit or vehicle. Self-diagnosis is generally used if:

- No GFF is available for the vehicle (very old or very new vehicle model),
- No GFF is available for the problematic case,
- GFF refers to the self-diagnosis.

Unlike with GFF, the interpretation of the results must be performed by the user.

## 6.6.1. Self-diagnosis in general

There are two ways to execute self-diagnosis functions in **Offboard Diagnostic Information System Service**:

1. Diagnosis with guided fault finding is performed **without an order**.

   In this case, the self-diagnosis functions for **identified** control units or control units **entered as installed** manually are available in the context menu of the block diagram or control unit list.

   **Reference:**

   See chapter "Block diagram"

2. If diagnostic start-up is performed as quick start-up without the **using guided fault finding** option, **Offboard Diagnostic Information System Service** does not automatically identify the control units. The control units are **identified manually** or **entered as installed** manually via the block diagram or the control unit list.

---

**Note:**



Subsequent start-up of guided fault finding is possible using this button on the **Control units** tab. That starts the automatic identification of the control units and guided fault finding.

---

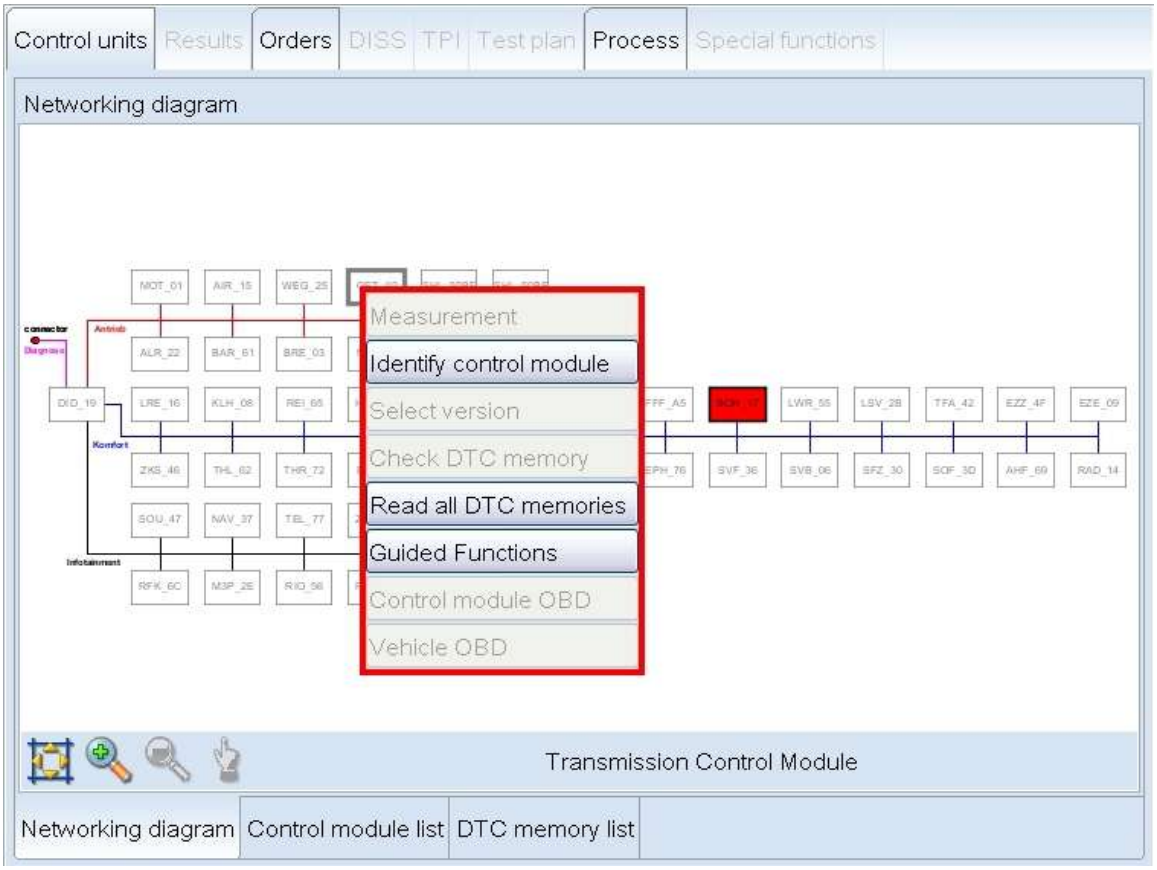



**Figure 6.90. Block diagram without control units read out**

You must left-click (for about 1 second) or right-click on the desired control unit in the block diagram or control unit list. That opens the context menu.




**Figure 6.91. Manual identification of control units**

**Identify control unit:** The selected control unit is identified.

**Read event memory:** If an identified control unit has event memory entries, this button is enabled. It can be used to re-read the event memories of the control unit.

**Read all event memories:** The event memories of all control units identified so far are re-read.

**Guided functions**: This button is enabled for an identified control unit. It is used to open the guided functions available for the selected control unit in a selection window. If a guided function is marked and you click on **Execute**, **Offboard Diagnostic Information System Service** starts this function and switches to the **Process** tab for this.

If a control unit is not identified during manual identification, **Offboard Diagnostic Information System Service** opens a message asking whether it is to be **entered as installed** manually.

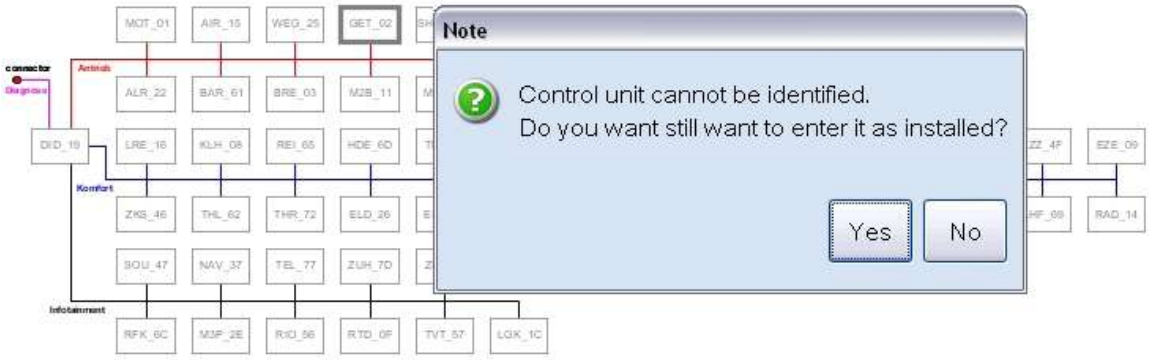



**Figure 6.92. Entering a control unit as installed that has not been identified**

**Yes:** The control unit is entered manually as installed. The self-diagnosis functions are not available.

**No:** The control unit is not entered as installed.

**Reference:**

See chapters "Diagnostic start-up" and "Block diagram".

Note:

Self-diagnosis is only possible with control units **identified** or **entered as installed**.

**Calling self-diagnosis functions**:

For self-diagnosis, you must left-click (for about 1 second) or right-click on a control unit marked as installed, which opens a context menu with the self-diagnosis buttons.




**Figure 6.93. Starting self-diagnosis**

- **Control unit self-diagnosis**: Click on this button to open the **Self-diagnosis functions** selection window with self-diagnosis functions for the control unit selected.

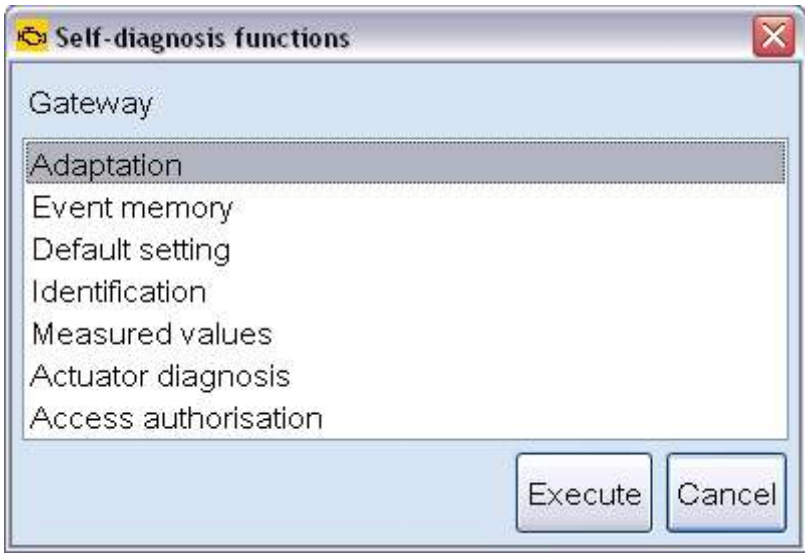



**Figure 6.94. Selection window for control unit self-diagnosis**

The name of the control unit is displayed in the window.

**Execute:** The selected function is executed. To do this, **Offboard Diagnostic Information System Service** switches to the **Results** tab (with the exception of the **Access authorisation** function).

**Cancel:** No function is executed and the window is closed.

You can choose between **Adaptation, Code, Event memory, Default setting, Identification, Measured values, Actuator diagnosis** and **Access authorisation**.

- **Vehicle self-diagnosis**: Click on this button to open the **Self-diagnosis functions** selection window with self-diagnosis functions for the overall vehicle.

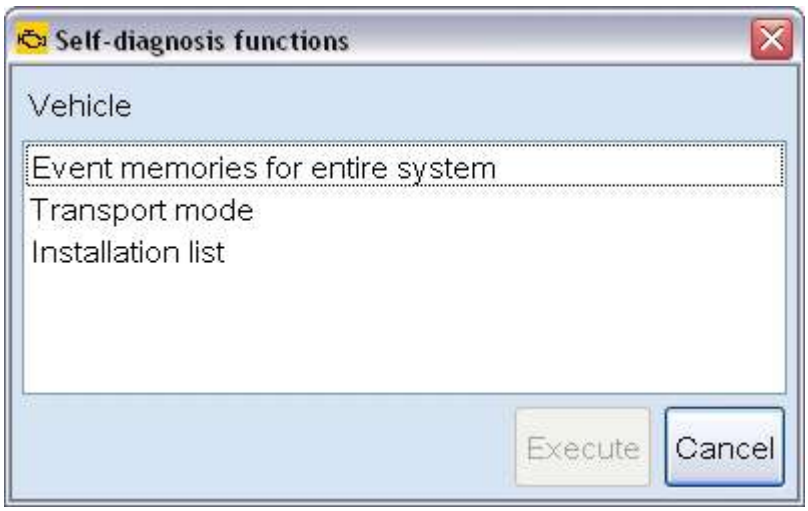



**Figure 6.95. Selection window for vehicle self-diagnosis**

**Execute:** The selected function is executed. To do this, **Offboard Diagnostic Information System Service** switches to the **Results** tab (with the exception of the **Transport mode** function).

**Cancel:** No function is executed and the window is closed.

Here, you can choose between the functions **Event memories for entire system**, **Transport mode** and **Installation list**.

The functions are executed and the results displayed on the **Results** tab. For each control unit, every function has its own subordinate tab. These tabs have different designations for the individual functions.

For control unit-specific self-diagnosis functions, the designations are as follows:

| Function | Tab name |
|---|---|
| Adaptation | KAL |
| Code | COD |
| Event memory | ESP |
| Default setting | BAS |
| Identification | ID |
| Measured values | MW |
| Actuator diagnosis | SGT |

**Table 6.2. View names of control unit self-diagnosis**

With these functions, in addition to the view name the address is displayed on the tab of the corresponding control unit.

**Example:**

The tab for the **Event memory** function of the central electrics with the address **09** has the name

**"09 - ESP"**.

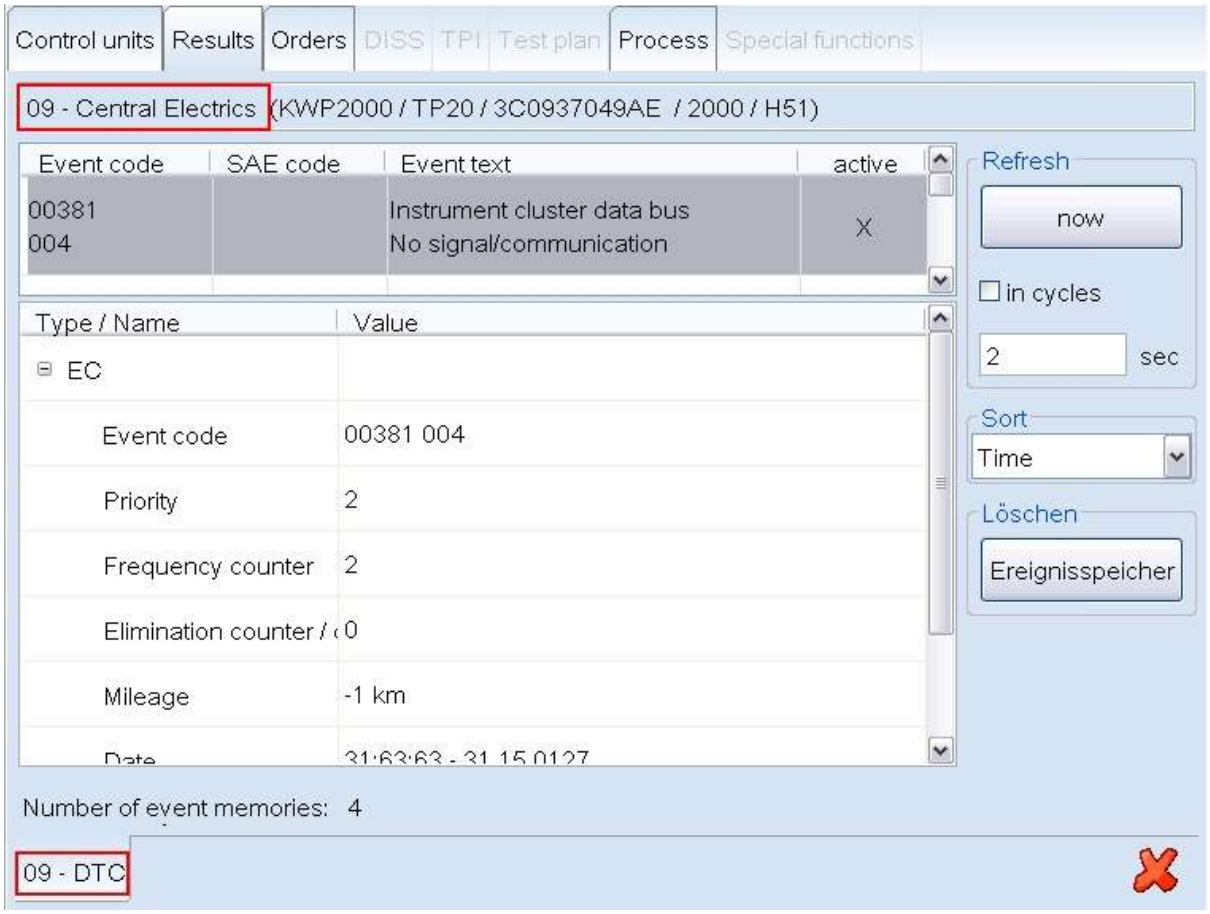



**Figure 6.96. Self-diagnosis: Example of a tab name**

Functions that apply to the overall vehicle may have the following names:

| Function | Tab name |
|---|---|
| Entire event memory | VEH - DTC |
| Installation list | VEH - VBL |

**Table 6.3. View names of vehicle self-diagnosis**

The transport mode and access authorisation functions are not listed here, since they are executed in a separate window and not on the **Results** tab.

To display and execute a function, **Control unit self-diagnosis** or **Vehicle self-diagnosis** must be selected from the menu first, and then the desired function name.

Every function can also be active once for each control unit. If a tab is already open for a function for a control unit and the function is selected again, the existing tab is displayed. To restart the function explicitly, the existing tab must be closed first by clicking on .

If the function is not supported by the control unit, a warning is displayed and you are not taken to the **Results** tab.

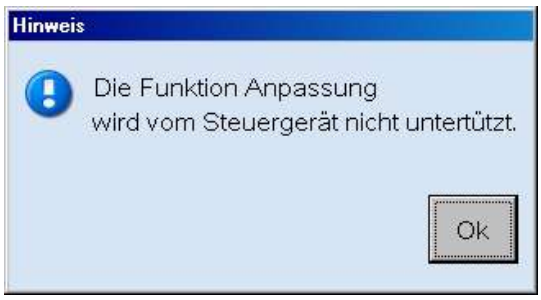



**Figure 6.97. Warning if adaptation is not supported**

**OK:** The message is closed.

The individual self-diagnosis functions are described in the following chapters.

# 6.6.2. Control unit-specific functions

## 6.6.2.1. Adaptation

Depending on whether the adaptation is to be performed on KWP or UDS control units, configuration and operation will deviate.

### 6.6.2.1.1. Control units with KWP protocol

For KWP control units, after switching to the **Adaptation** view all **adaptation channels** of the selected control unit are displayed in a list (1). The channels are numbered and sorted in ascending order. A maximum of 255 channels can be used per control unit. All 255 channels are always displayed, regardless of whether they are actually being used by the current control unit.

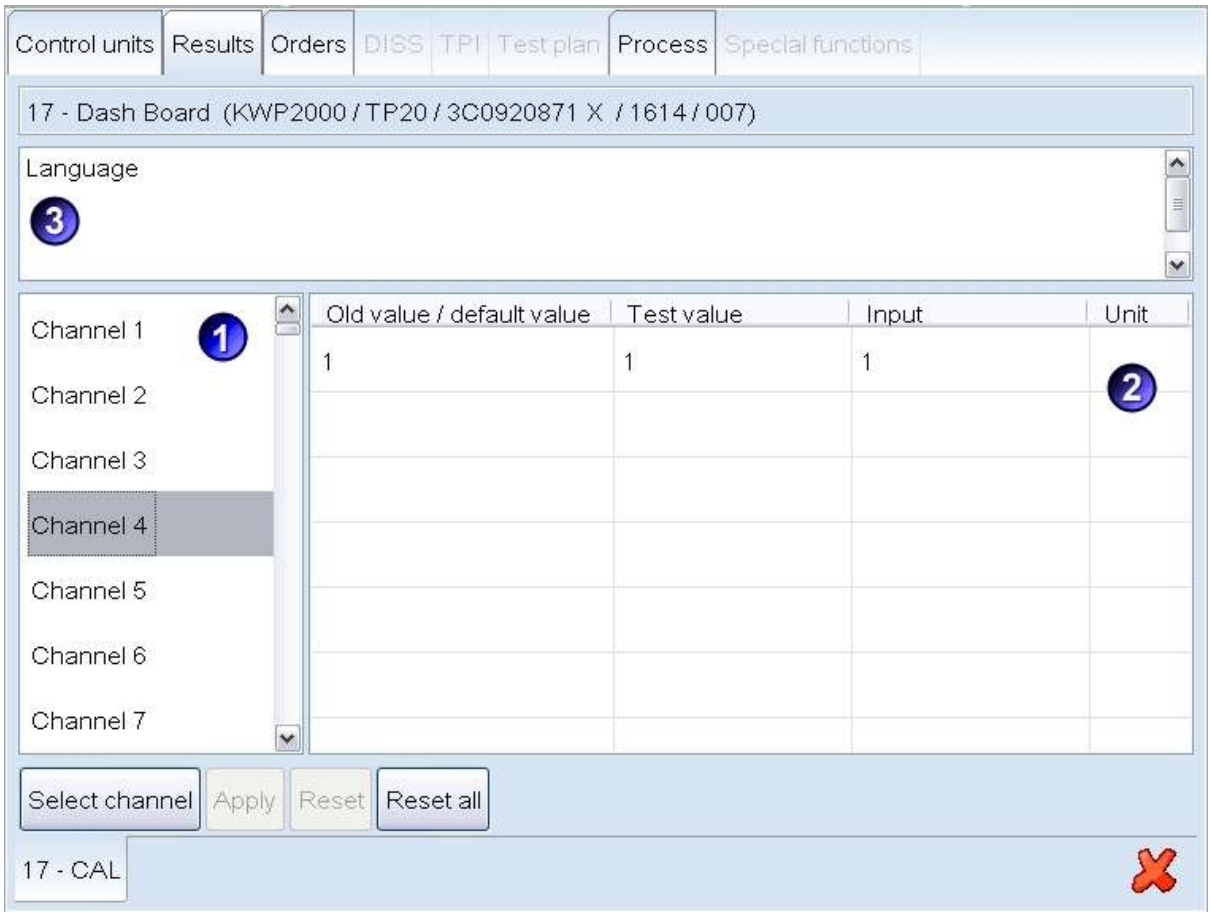



**Figure 6.98. Adaptation KWP**

**New adaptation values** can be entered in the (2) table. It has four columns:

**Old value/default value**: The adaptation value read out of the control unit.

**Test value**: The current test value. Initially identical to the value in the **Old value/default value** column.

**Input**: The value entered by the user. Initially identical to the value in the **Old value/default value** column.

**Unit**: The unit of the adaptation value, if entered.

There are four buttons below the table:

**Select channel**: Selects a channel selected in the list.

**Apply**: Writes the modified adaptation value into the control unit.

**Reset**: Resets the test value to the original value.

**Reset all**: If test values were set on several channels, they are reset to their original values - provided the new values have not yet been saved to the control unit using **Apply**.

If the control unit or data input support this function, the information area 3 also displays more information on the selected channel, e.g. its designation:

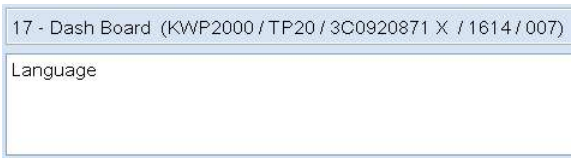



**Figure 6.99. Adaptation information area**

To change the adaptation value of a channel, perform the following steps:

1. Select a channel from the 1 list.
2. Click on the **Select channel** button or double-click on the desired channel. Then, the current channel value is displayed in the 2 table.
3. Change the adaptation value in the **Input** table column and confirm it with **Enter**. Then, the value is sent to the control unit first as the new test value. This procedure may be repeated any number of times.

---

**Example:**
In the figures above, channel 4 was selected. For the dash panel insert/instrument cluster control unit used in the example, the language displayed is set at this channel. The value 1 stands for German and the value 2 for English. If the user sets the test value to 2, all messages are shown on the display panel of the instrument cluster in English until a different test value is entered, the **Reset** button is used or a different channel is selected.

---

As long as the modified value has not yet been saved to the control unit, the user can reset the test value to the initial value by clicking on the **Reset** button (i.e. to the value in the **Old value/default value** column). The test value is also reset if a new channel is selected or on changing or closing the tab.

If the new value is invalid, an error message informs the user of this and the value is not stored in the control unit as the test value:

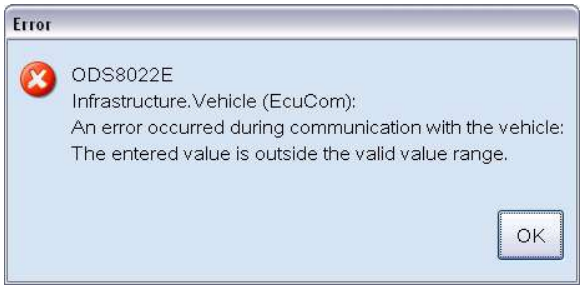



**Figure 6.100. Error message in the event of an invalid adaptation value**

4. If the correct test value was determined, click on the **Apply** button to save it to the control unit. Only then is the value in the **Old value/default value** column set to the new value. After saving the value, the **Reset** button is disabled. Both values are also disabled if the value in the **Input** field and the value in the **Old value/default value** field are identical.

On saving values, whether the value to be written is valid is checked - like for setting test values. If that is not the case, the error message described in step 3 appears and the write operation is cancelled.

### 6.6.2.1.2. Control units with UDS protocol

For UDS control units, when switching from the **Adaptation** tab, all available **adaptation functions** of the selected control unit are listed in a table. They can be used to change the **adaptation values** of the control unit.

This is illustrated in the following figure using the control unit with diagnostic address 17 (instrument cluster/dash panel insert):

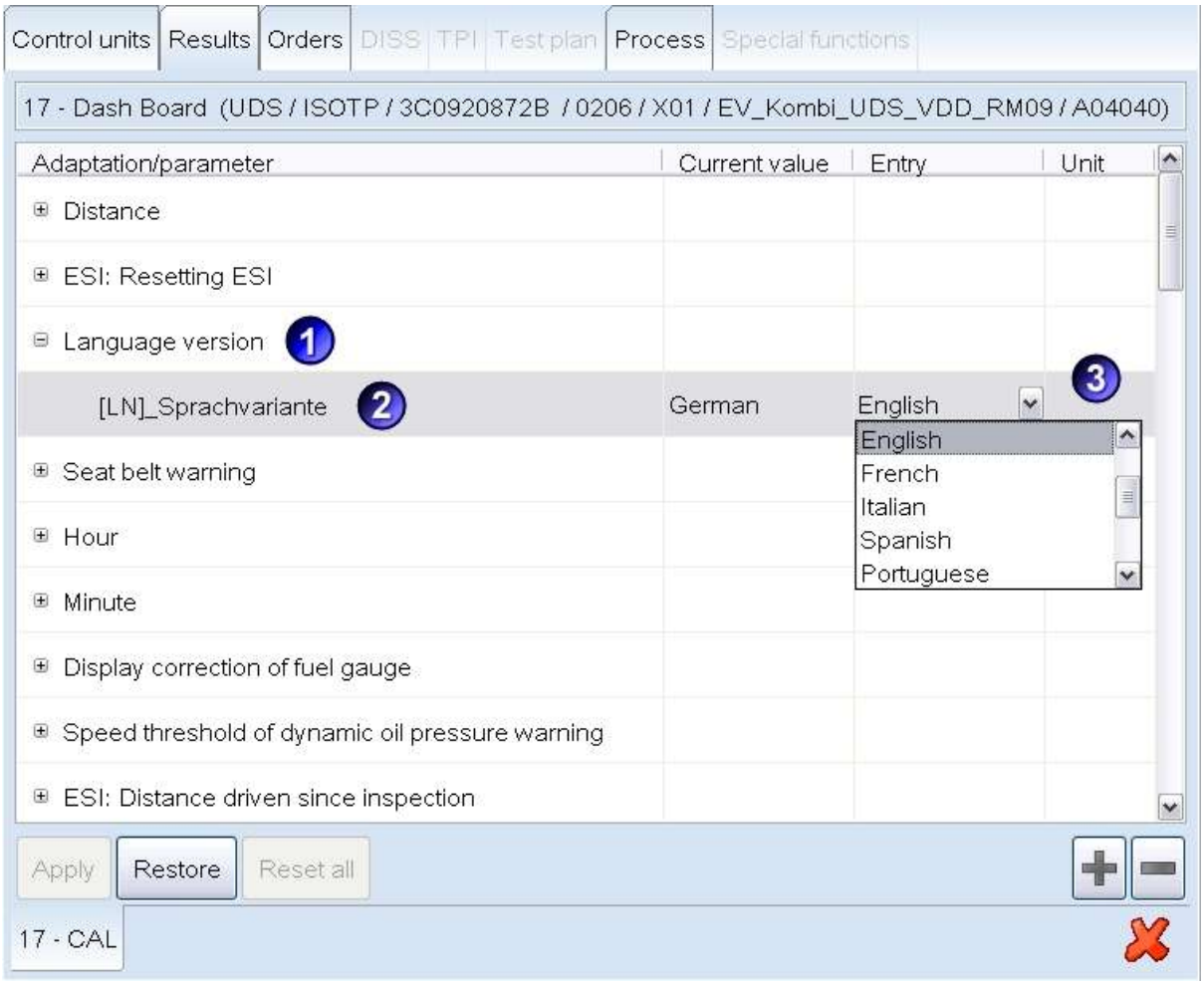



**Figure 6.101. Adaptation UDS**

This is illustrated in the following figure using the control unit with diagnostic address 17 (instrument cluster/dash panel insert, **17 - KAL tab**).

The table of adaptation functions has four columns:

**Adaptation/parameter**: The name of the adaptation function or parameter.

**Old value**: The parameter value read out of the control unit.

**Input**: The new parameter value. To change the value, click in the **Input** column of the desired parameter. Depending on the type of parameter, the new value may be selected from a list 3 or entered as desired.

**Unit**: The unit of the adaptation value.

Every adaptation function ❶ has parameters ❷. By default, they are displayed in closed form; they can be displayed by double-clicking in the row or by clicking on + in front of the function's name. Another double click or a click on - closes the parameter list again.

To open the parameters of all functions in one go, click on the  button on the right below the table. In the same way, clicking on  closes all open parameter lists again. Depending on the number of available functions, opening may take a while.

---

**Note:**

When you close one or more parameter lists, all values that have not yet been saved are lost. The user is informed about this by a message:

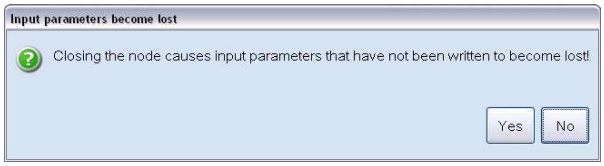



**Figure 6.102. Warning on closing the parameter list**

**Yes**: The values entered are discarded and the parameter list is closed.

**No**: The parameter list remains open and the values entered are retained.

---

There are three buttons below the table:

**Restore**: Restores the values of the selected adaptation function saved to the control unit before the last write operation. Clicking on the button displays the values last used in the **Input** column. To write the restored values into the control unit, click on the **Apply** button.

**Reset all**: Restores the values of all adaptation functions saved to the control unit before the last write operation. Clicking on the button displays the values last used in the **Input** column. To write the restored values into the control unit, click on the **Apply** button.

**Apply**: After changing the values of all desired adaptation functions, you can save them by clicking on the **Apply** button. Then, the user needs to confirm this:




**Figure 6.103. Confirmation prompt before performing the adaptation**

**Yes**: The new adaptation values are written.

**No**: The adaptation values are not written into the control unit.

**Reset control units**: This option is only active for control units that support this function. If the tick is set, the control unit is reset after writing the adaptation values.

Before saving the values, the validity of the parameter values entered freely is checked. If this check is not successful, the values are not written into the control unit and an error message informs the user of the cause:

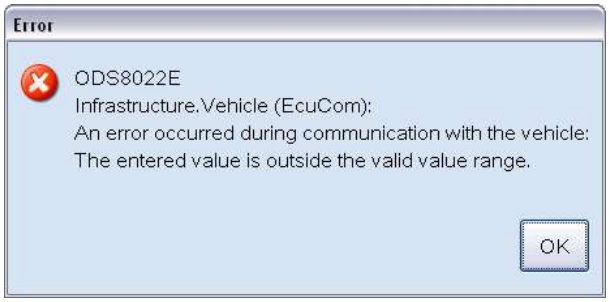



**Figure 6.104. Error message in the event of an invalid adaptation value**

If the new values were saved successfully, they are displayed in the **Current value** column.

## 6.6.2.2. Coding

Depending on whether coding is to be performed on KWP or UDS control units, configuration and operation will deviate.

The selection of the **subsystem** to be coded, i.e. of the control unit subordinate to the current control unit, is the same in both cases:

1. Whether subsystems are available is checked.
2. The system names of all available subsystems are displayed in a selection list. There is normally no default entry, instead the text "Please select subsystem" is displayed in the list.
3. The user selects a subsystem or the control unit.
4. The current code of the control unit is read automatically.

If the control unit does not have any subsystems, steps 2 and 3 are omitted. Then, on opening the **Coding** tab, the control unit is selected automatically and the code is also read directly.

The subsequent steps deviate, depending on the diagnostic protocol and type of code.

---

**Note:**

**Gateway control units** represent an exception. The **Coding** function cannot be selected for these control units.

---

### 6.6.2.2.1. Coding on KWP control units

The **Coding** function for KWP control units is explained below. There are two possible **code types** for these control units, the **short code** and the **long code**. The type of code depends on the control unit and cannot be changed by the user.

1. **Short code**

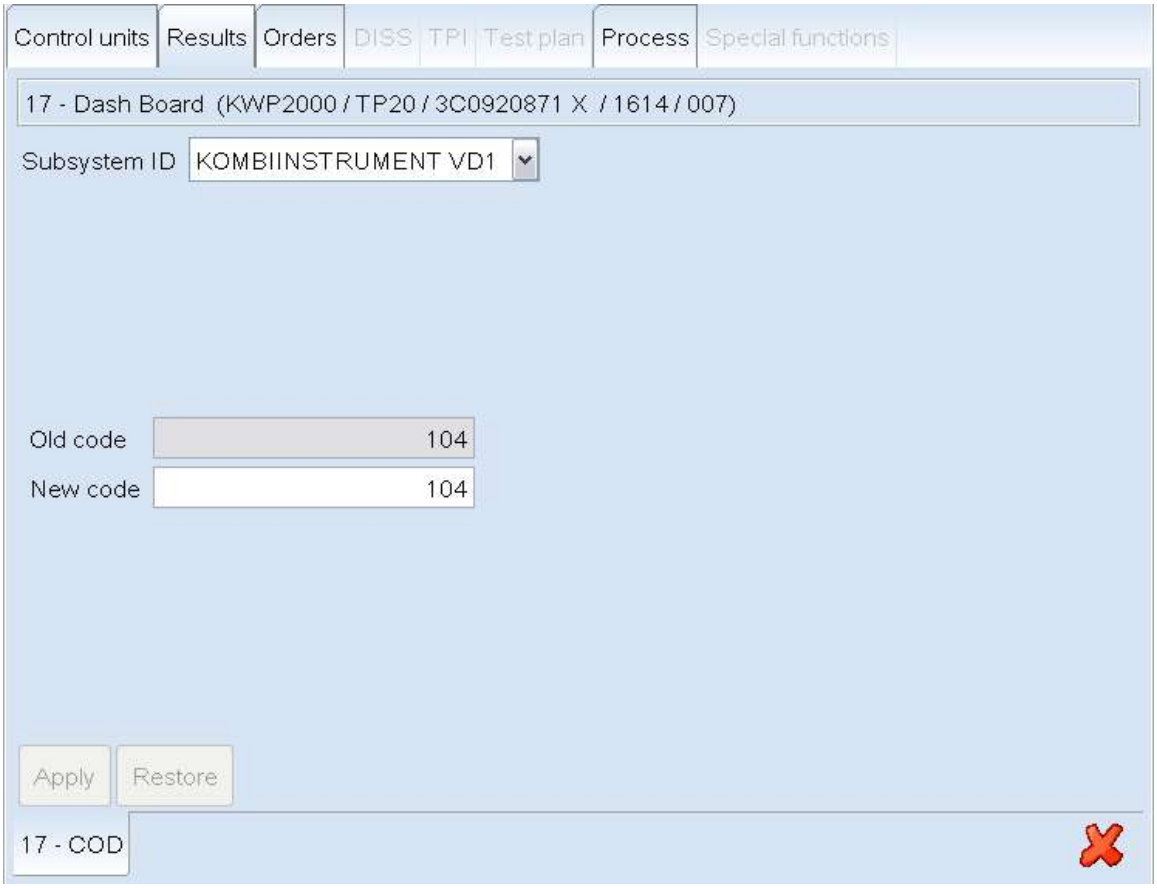



**Figure 6.105. Short code**

**Apply**: Writes the code into the control unit.

**Restore**: Enters the value last coded in the **New code** field. Click on **Apply** to save the restored code to the control unit.

After opening the tab or selecting the desired subsystem, the code is read out of the control unit and displayed in the **Old code** field. The new value can be entered in the **New code** field and confirmed using the Enter key. That enables the **Apply** button.

After pressing the **Apply** button, a message appears with a confirmation prompt.




**Figure 6.106. Confirmation prompt before coding**

**Yes**: Writes the new code value into the control unit.

**No**: Writing is not performed.

If coding was successful, another message is displayed:

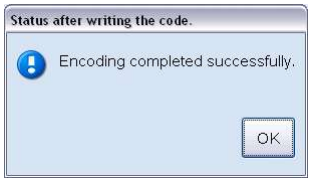



**Figure 6.107. Success message after coding**

After confirming the message, the user is requested to reset the control unit:

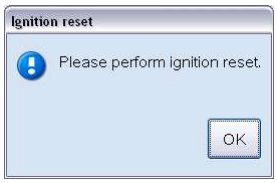



**Figure 6.108. Request to reset the ignition**

To do this, switch the ignition key to the "Off" position and then back to its former position.

Now, the old value is also displayed in the **Old code** display field, followed by the original code value in brackets:




**Figure 6.109. New and old code**

This procedure may be repeated any number of times. If coding was not successful due to an invalid value or other problems, a corresponding error message informs the user of this and the current code is not changed. Depending on the type of error that occurred, the messages may differ, e.g. stating that communication with the vehicle could not be established. After rectifying the problem, coding can be repeated. Any example of an error message is shown in the following figure:

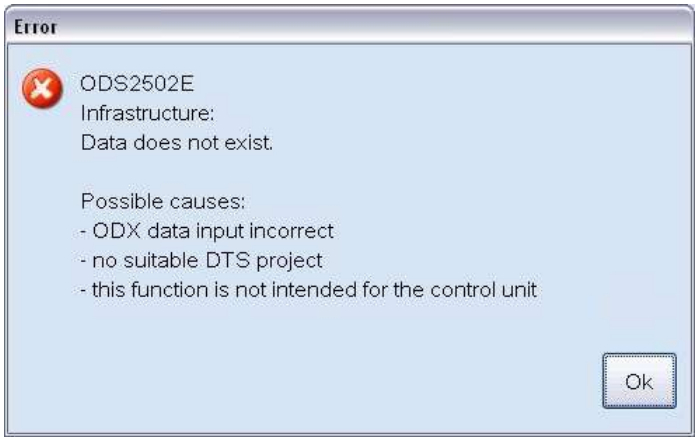



**Figure 6.110. Error message during coding due to missing data**



2. **Long code**

With the long code, the values to be coded are displayed in the form of a bit field consisting of up to 32 bytes. It is displayed in binary and in hexadecimal representation. It is displayed in the same way as for the binary code for UDS control units.

**Reference:**

See "UDS binary code".

## 6.6.2.2.2. Coding on UDS control units

For UDS control units, there is a **binary code** and a **plain text code**. These are different representations of the same type of code. If supported by data input, after calling the **Code** function and possibly selecting the subsystem the plain text code is displayed by default. Otherwise, the binary code is displayed.

1. **UDS binary code and KWP long code**

   The representation of the binary code for UDS control units and of the long code for KWP control units is identical. The following description applies to the binary code, but also applies to the long code in the same way.

   The **code string** is displayed in a table view. Every row of the table corresponds to a byte of the code string:

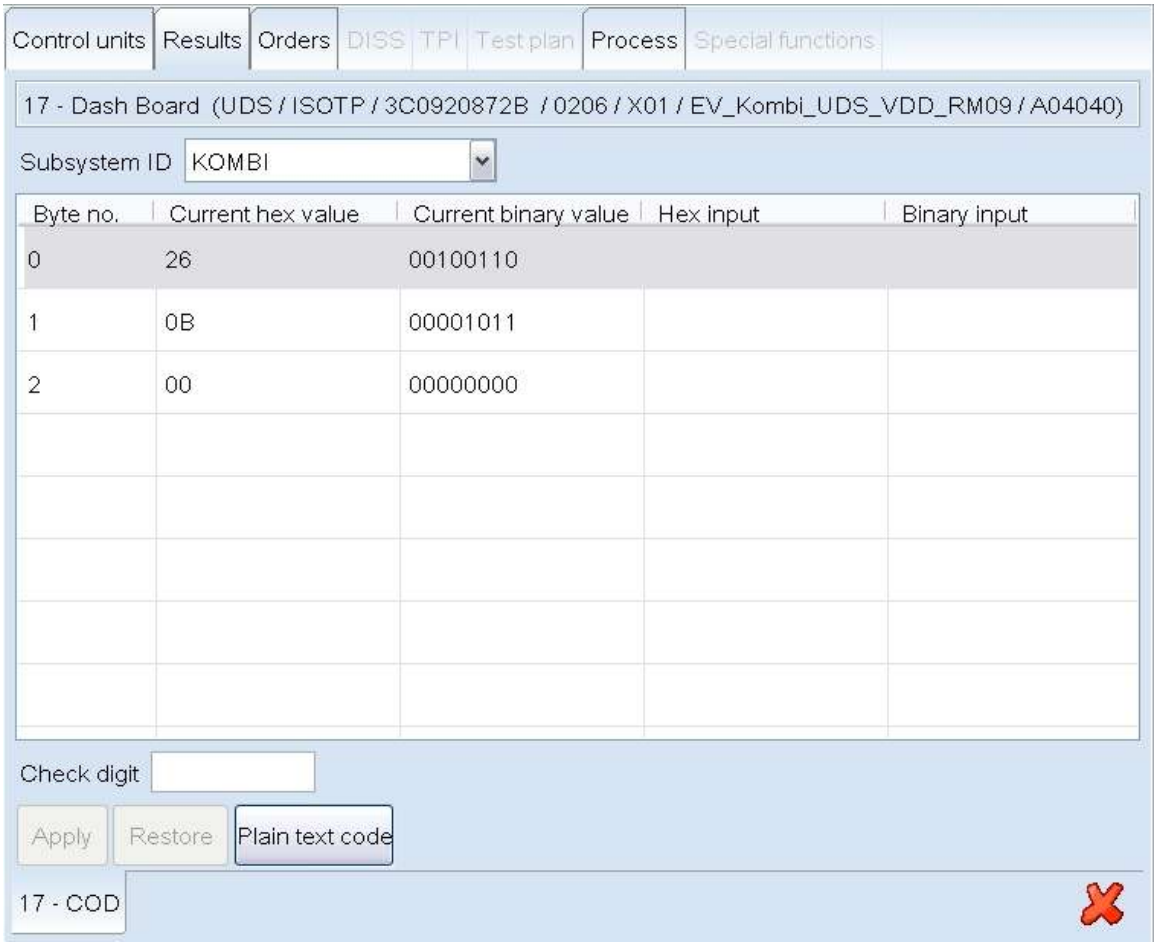



**Figure 6.111. Binary code**

The table has five columns:

**Byte no.**.: The byte number in the code string.

**Current value, hex**: The value in hexadecimal representation.

**Current value, binary**: The value in binary representation.

**Input, hex**: The user's entry in hexadecimal representation.

**Input, binary**: The user's entry in binary representation.

There are three buttons below the table:

**Apply**: Writes the modified code string into the control unit.

**Restore**: Restores the code last used.

**Plain text code**: Switches to **plaint text code** representation, if supported by the control unit. Otherwise, the button is disabled.

The value may be changed in binary form as well as in hexadecimal form. If you click in one of the two cells, a new input screen will appear:

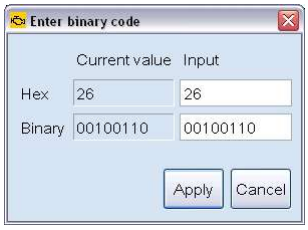



**Figure 6.112. User input for binary code**

If one of the two values is changed, the corresponding binary or hexadecimal value is automatically updated during input. Closing the dialogue discards the changes.

**Apply**: The changes are added to the table.

**Cancel**: The changes are discarded.

Once all changes have been made as desired, the checksum corresponding to the code string must be entered in the **Checksum** text field. It can be calculated as follows:

The code string is split up into 2-byte groups. If the byte number is odd, the value 00 is attached to the end of the byte. The values are added up, any out-of-range value is cut off.

**Example:**

Code string: F0 01 02 04 08 10 20

F001 +

0204 +

0810 +

2000

11A15 & 0xFFFF = 1A15

Checksum: 1A15

To write the code into the control unit, the user must click on the **Apply** button. Before saving the code, a query appears.

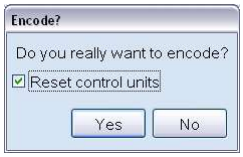



**Figure 6.113. Confirmation prompt before binary coding**

**Yes**: The code string is checked for errors using the checksum.

**No**: Coding is cancelled.

If "Reset control units" is ticked, an **automatic reset** is performed after coding, i.e. the control unit is automatically switched off and back on again. If not, the user will need to perform a **manual** reset after coding, i.e. switch the ignition key once to the "Off" position and then back to its former position.

If there is no entry in the **Checksum** field, a warning is displayed:

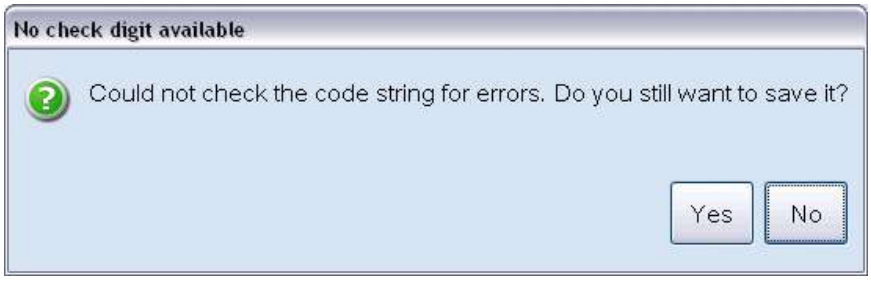



**Figure 6.114. Note on missing checksum during binary coding**

**Yes**: Writes the code string into the control unit.

**No**: The code string is not written.

If a checksum was entered that does not correspond to the code string, the following message is displayed:

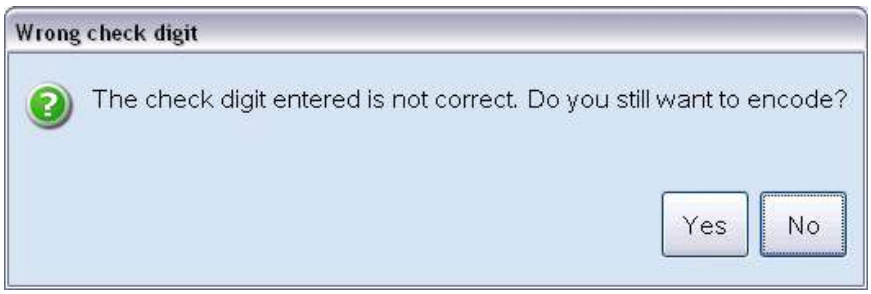



**Figure 6.115. Note on incorrect checksum during binary coding**

**Yes**: Still writes the code string into the control unit.

**No**: The code string is not written.

If coding was successful, another message is displayed:

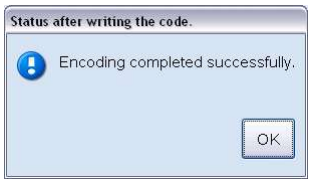



**Figure 6.116. Success message after coding**

The new parameter values are now displayed in the table.

In the event of an error, an error message informs the user of the reason why the code not could not be saved: Depending on the type of error that occurred, the messages may differ, e.g. stating that communication with the vehicle could not be established.

After rectifying the problem, coding can be repeated.

**⇨ Reference:**

See also "Error messages" chapter.

If coding was successful and no automatic control unit reset was performed, after confirming the message the user is requested to **manually reset** the control unit:

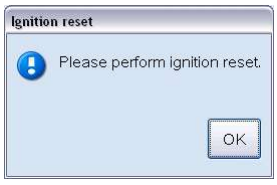



**Figure 6.117. Request to reset the ignition**

To do this, switch the ignition key to the "Off" position and then back to its former position.

For UDS control units that support this option, the user can click on the **Plain text** button to switch to the view for plain text coding. Changes already made in the binary view are not applied. In this case, the user is informed about this by a message:

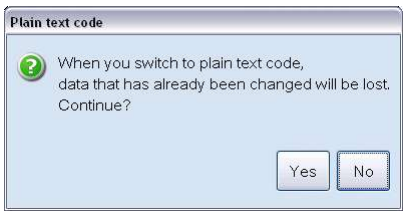



**Figure 6.118. Warning when switching to plain text code**

**Yes**: Switches to the plain text code view. Any changes in the binary view are lost.

**No**: Does not switch to the plain text code view. Changes in the binary view are retained.

If the code was saved without errors, the **Restore** button is enabled. Click on this button to restore the code last used. To write the restored code into the control unit, click on the **Apply** button again.

2. **Plain text code**

When you switch to the plain text code, the current code string is read out of the control unit and split up into its individual parameters. They are displayed in the table along with their designation and read-out value.

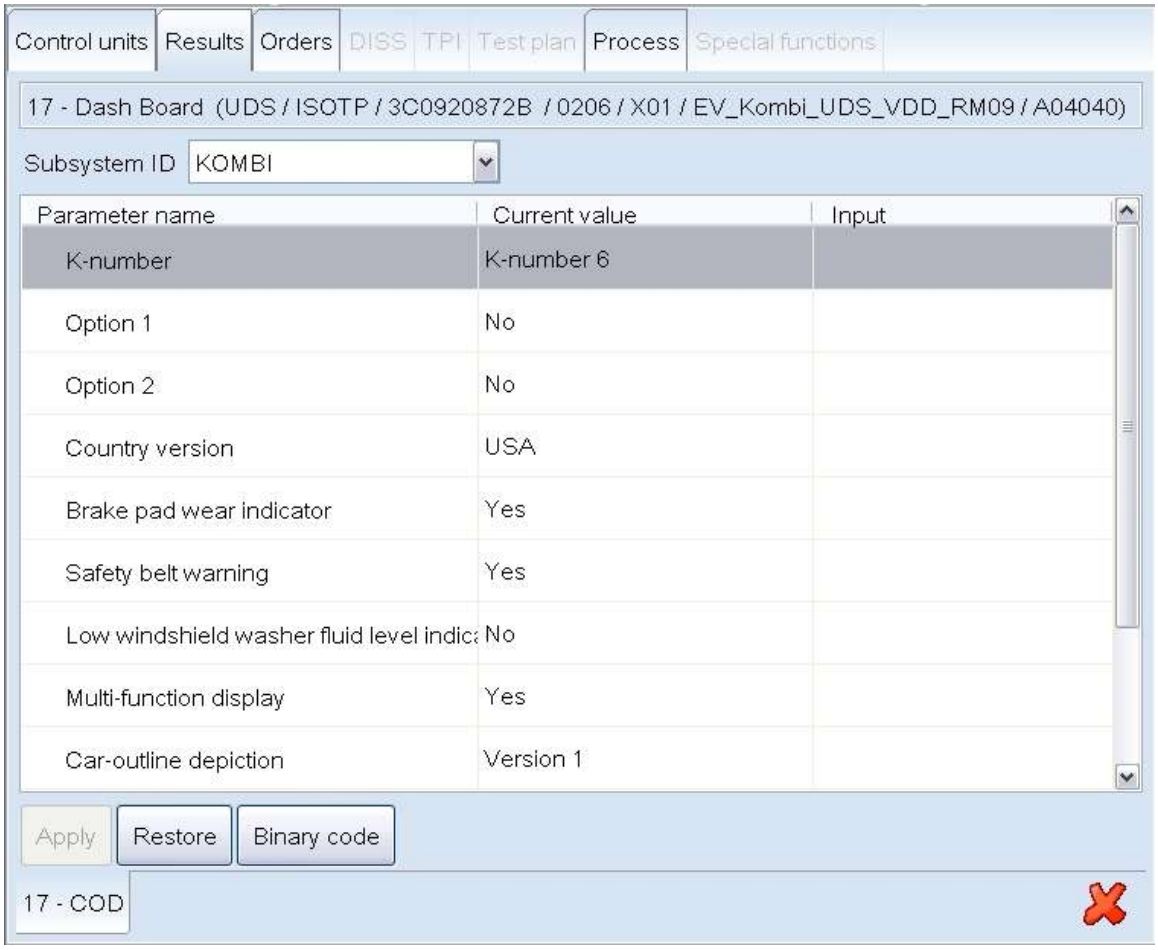



**Figure 6.119. UDS plain text code**

The table has five columns:

**Parameter name**: The name of the parameter in the code string.

**Current value**: The current code value.

**Input**: The user name entry.

There are three buttons below the table:

**Apply**: Writes the modified code string into the control unit.

**Restore**: Restores the code last used.

**Binary code**: Switches to **binary code** representation.

To change the value of a parameter, the user must click on the desired parameter row in the input column. The new value can now be selected from a selection list.

For this type of code, it is not necessary to enter a checksum since only the code values from data input and thus valid values can be selected.

Coding is started after clicking on the **Apply** button. With the exception of checking the checksum, the process is the same as for binary coding and is described there.

**Reference:**

See "UDS binary code".

## 6.6.2.3. Event memory

The **Event memory** function reads the current contents of the event memory of a control unit. It also provides the option of erasing the event memory.

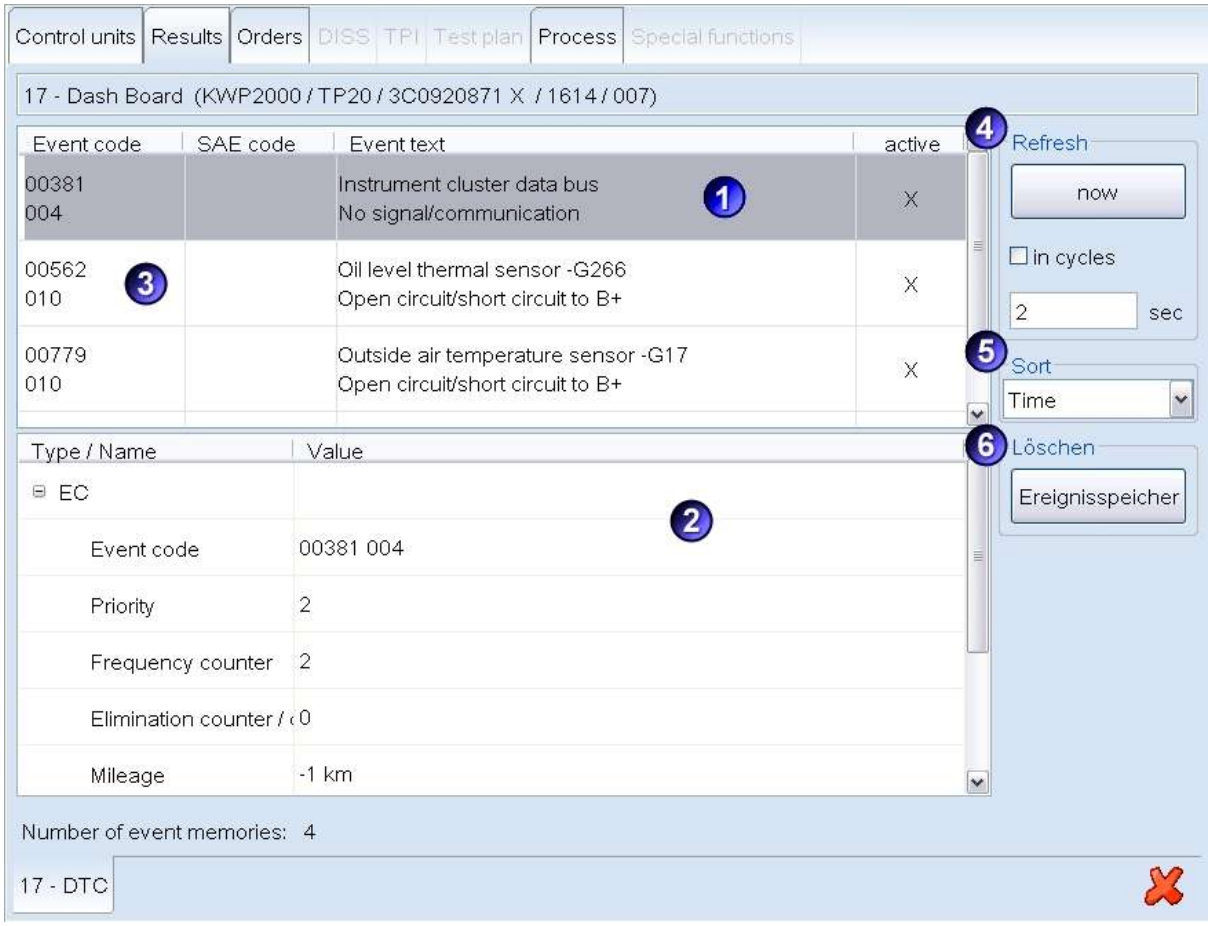



**Figure 6.120. KWP event memory**

The contents of the event memory are displayed in two tables arranged on top of each other. The table at the top (1) lists all events read out of the selected control unit. It has four columns:

**Event code**: The code number of the event.

**SAE code**: The code number of the event in SAE format.

**Event text**: The description of the event.

**active**: Indicates whether the event is active or not.

If you click on an event line, (3) the table at the bottom (2) lists the **ambient conditions**. They represent additional information on the selected event, such as **mileage**, **date**, **fault status** etc. The number and type of these pieces of information may deviate partially from one control unit to another. The table has two columns:

**Type/name**: The type of information.

**Value**: The value read.

A + may precede the designators. That means that they represent a group of individual pieces of information that can be opened by clicking on +. If the group is open, - is displayed in front of its main entry. Click on this symbol to close the group again.

There are three areas for additional functions to the right of the tables:

**Refresh** (4): Clicking on the **now** button triggers re-reading of the event memory. Selecting the **in cycles** checkbox initiates the reading of the event memory in cycles at the cycle time entered in the text field below. If the cycle time is changed, click on the **now** button again to accept the new cycle time.

**Sort** 5 : You can enter a criterion here by which the event memory entries are sorted in the table at the top. Clicking on the column headings of the table at the top 1 reverses the sort order (ascending/descending). The default sort order is descending by priority and the time of the occurrence of the events displayed:




**Figure 6.121. Sorting the event memory entries**

**Delete** 6: To delete the contents of the event memory in the selected control unit, click on the **Event memory** button. A confirmation dialogue appears. The event memory is only erased after confirmation using the **yes** button. Click on **no** to cancel the process.

**Note:**

After erasing an event memory, it is re-read immediately and its content is displayed. If the event memory is not empty and still includes all or some events displayed before the erasure, the control unit did not accept the command for erasing or the corresponding event was immediately re-entered since the cause of the error has not been eliminated yet.

Event memory entries that have been deleted **CANNOT** be restored!

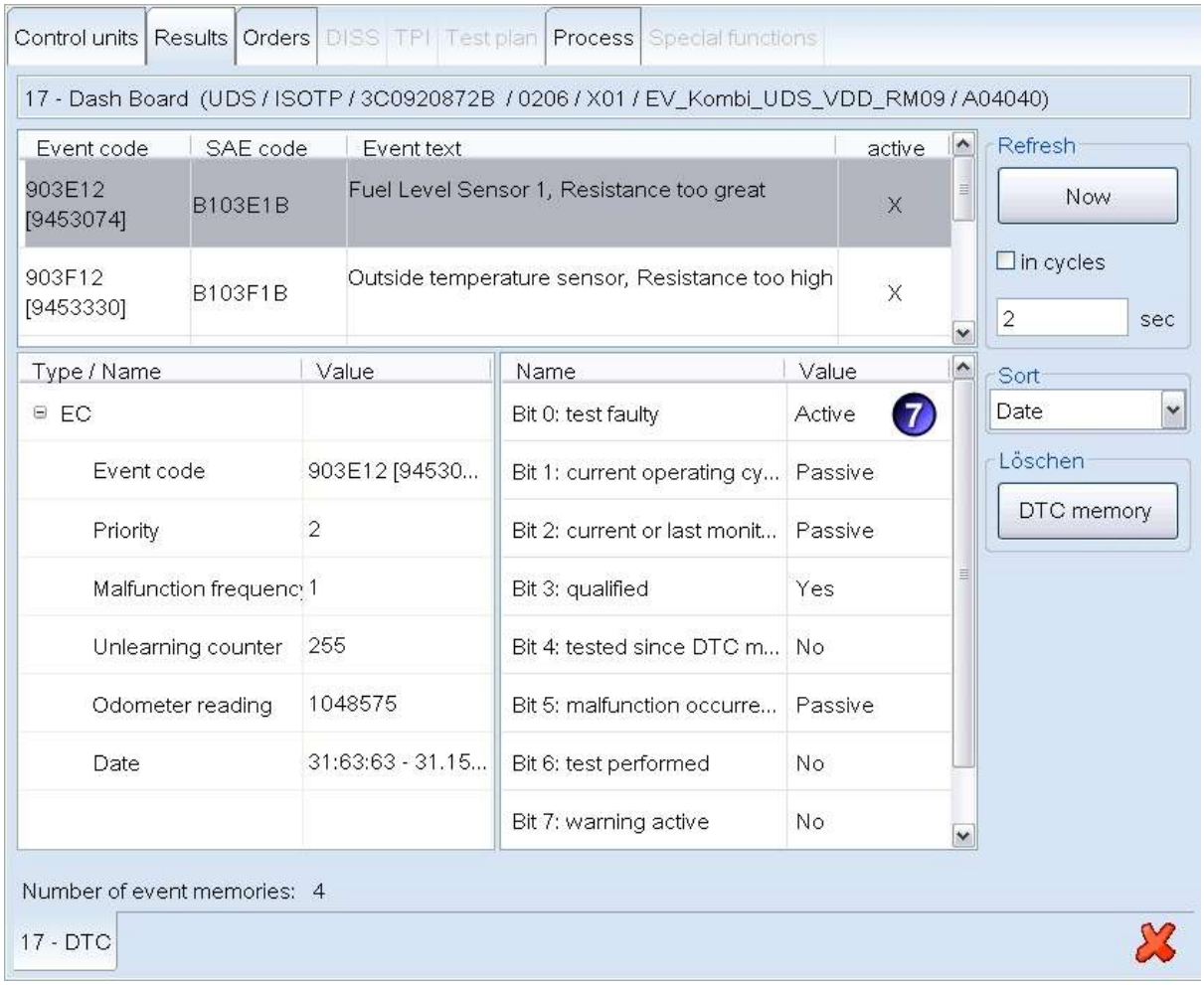



**Figure 6.122. UDS event memory**

For UDS control units, in addition to the ambient conditions to the right of the table, another table is displayed 7 with information on the **event status**.

**Name**: The name of the status bit.

**Value**: The value of the status bit.

## 6.6.2.4. Default setting

The configuration of the default setting and of the measured values to be displayed deviates, depending on whether the function is executed on control units with KWP protocol or with UDS protocol.

### 6.6.2.4.1. Default setting on KWP control units

The steps for executing the **Default setting** function on a KWP control unit are explained below.

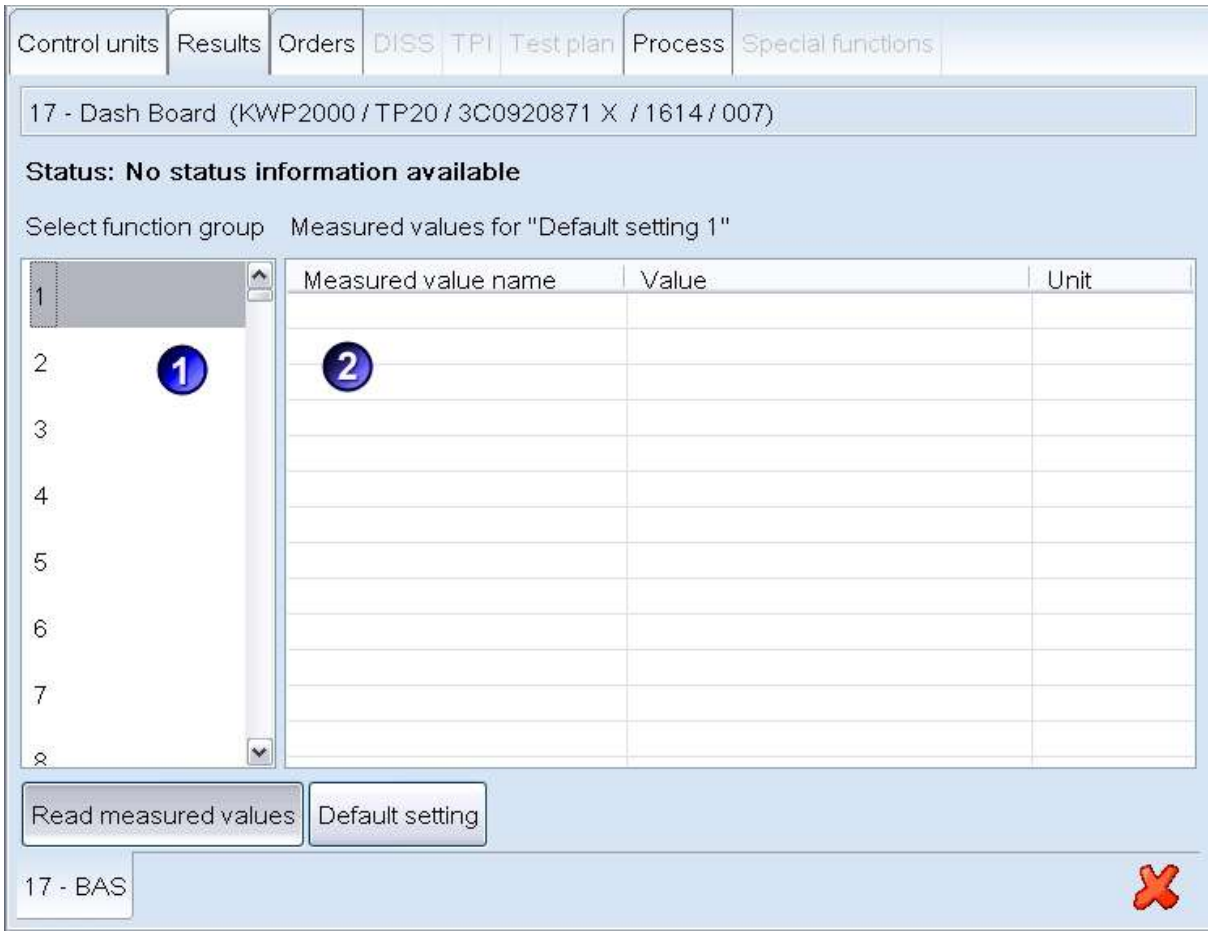



**Figure 6.123. KWP default setting**

**Read measured values**: Reads the measured values for a channel out of the control unit.

**Default setting**: Configures the default setting for a channel.

In the list on the left, 1 the desired **setting channel** can be marked and thus selected by clicking on it. The available channels are displayed in a list, sorted in ascending order. Multiple selection is not possible. 254 channels are available per control unit. All 254 channels are always displayed, regardless of whether some of them are not being used by the current control unit. If a channel that is not used is selected, no measured values are displayed and no default setting can be configured for this channel either.

**No** channel has a default setting to start with, and the **Default setting** button is disabled.

The second table 2 lists all **measured values** available for the selected channel.

**Measured value name**: The name of the measured value.

**Value**: The value returned by the control unit.

**Unit**: The unit of the measured value.

First, select a channel from the list. Then, after clicking on the **Read measured values** button, the measured values are read for this channel and displayed in the table. During this process, **no** settings are changed in the control unit. The **Read measured values** button is now disabled and the **Default setting** button is enabled.

To start the process of defining settings, click on the **Default setting** button. Then all measured values displayed are processed one after the other.

If a different channel is selected during the functional sequence and you click on the **Read measured values** button, the process of defining settings is stopped and measured values are re-read.

Some default setting operations require the user's action. If that is the case, the required action is displayed in the table of measured values for the currently active measured value. Once the action has been performed, the process of defining settings is automatically continued.

When the default settings have been configured, the result is displayed in the **Default settings for KWP - Status** field.

---

**Example:**

The necessary action "apply accelerator pedal" is displayed as the measured value. If the user performs this action, this text disappears from the table of measured values and the process of defining settings is continued.

---

After configuring the default setting, the newly configured measured values are displayed. If the default setting was not successful, a dialogue appears with an error message that needs to be confirmed by the user. Depending on the type of error that occurred, the messages may differ, e.g. stating that communication with the vehicle could not be established. After rectifying the problem, the process of configuring the default settings can be repeated.

**Reference:**

See also "Error messages" chapter.

## 6.6.2.4.2. Default setting on UDS control units

For UDS control units, after selecting the default settings, parameters can be additionally set and measured values selected. To do this, the following steps are required:

1. Selecting the default settings
2. Parametrisation of the default settings
3. Selecting the measured values
4. Configuration of the default settings

The individual steps are described in the following in detail.

**Selecting the default settings**

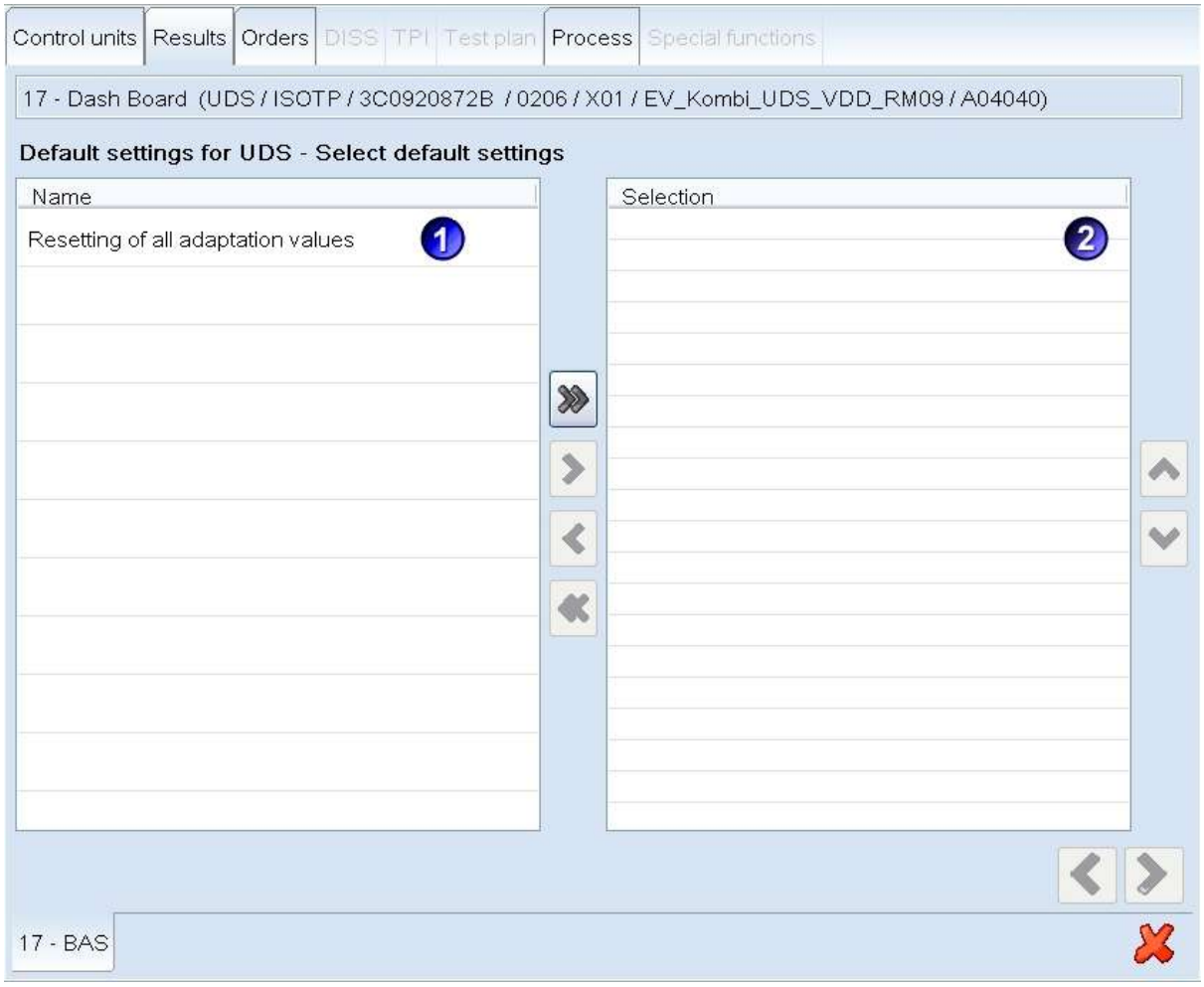



**Figure 6.124. UDS default setting - Selection of the default settings**

The desired **default settings** need to be selected from the initial view of the function. The available settings are displayed in the left-hand list 1 . The right-hand list 2 contains the selected settings. It is empty to start with.

 Moves the selected default settings from the left-hand list into the right-hand list.

 Moves all default settings into the right-hand list.

Moves the selected default settings from the right-hand list into the left-hand list.

Moves all default settings into the left-hand list.

The list of selected default settings (2) can be sorted. To do this, select exactly one default setting from the right-hand list.

Moves the entry up one position.

Moves the entry down one position.

Switches to the next view, **Parametrisation.**

**Parametrisation**

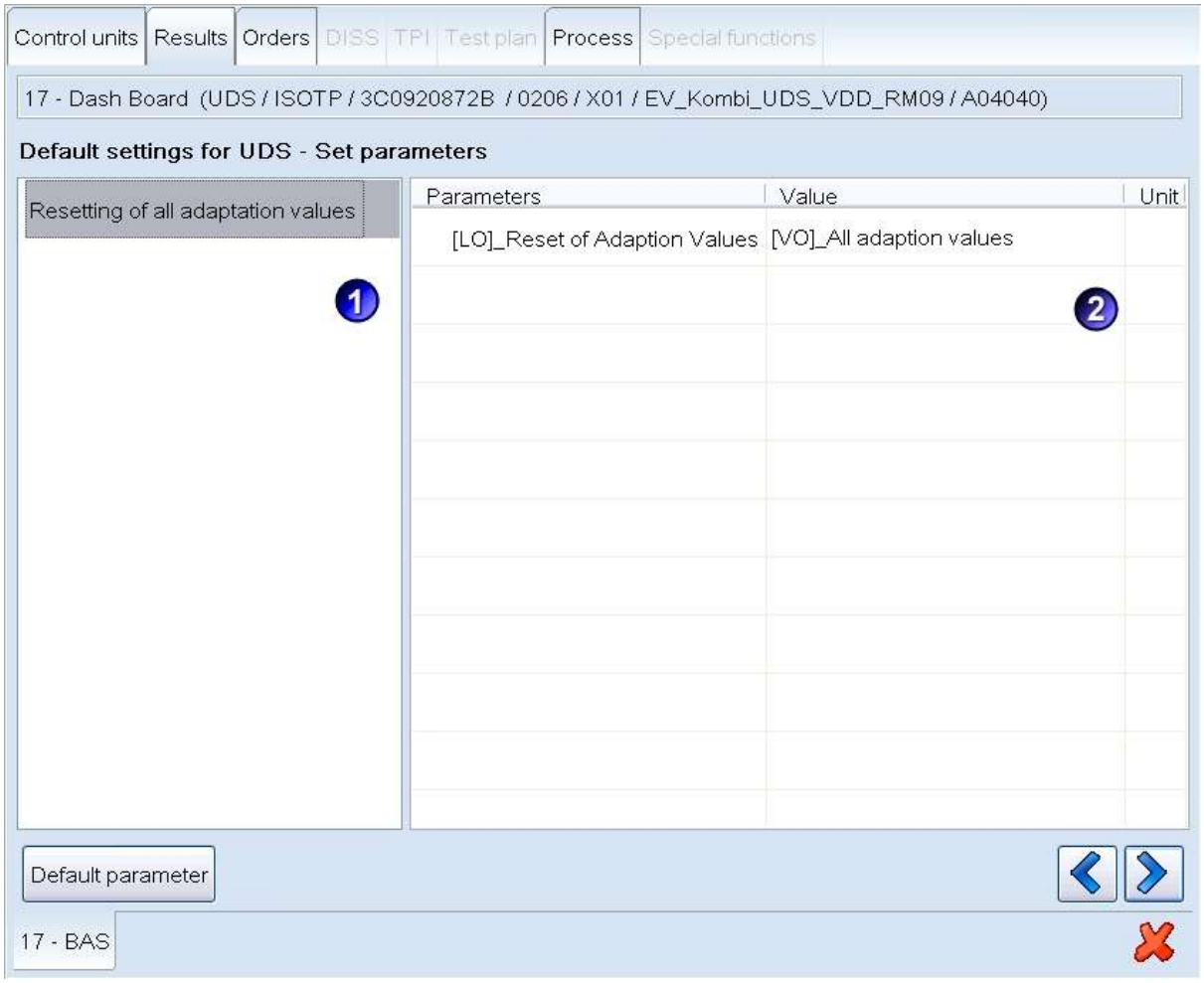



**Figure 6.125. UDS default setting - Parametrisation**

**Default parameters**: To set all parameters to their corresponding default values, click on this button. Whether values are missing or invalid is checked in this case and the relevant parameters and default settings are marked accordingly.

The left-hand list (1) contains the default settings selected in the previous view. The first default setting is selected by default.

As soon as a default setting is selected, the right-hand table (2) displays the corresponding parameters. Depending on the type of parameter, its value in the right-hand column may be selected from a pop-up menu or entered as desired. If you enter the value freely, whether it is valid is checked. If problems are detected or if a value is missing, the respective parameter is marked in red and the corresponding default setting is displayed in bold red characters.

**⇨ Reference:**

See also the Parametrisation problems figure in the "Actuator diagnosis" chapter.

Switches to the next view, the **Measured value selection.** As long as problems still exist during parametrisation, i.e. at least one parameter is marked in red, clicking on the button will cause an error message to be displayed. You can only switch to the next view when all parameters have valid values, i.e. when no parameters are marked in red any more.

Switches back to the previous view. Even if default settings are added or removed there, all settings made are retained for the remaining default settings.

**⇨ Reference:**

See also "Error messages" chapter.

**Measured value selection**

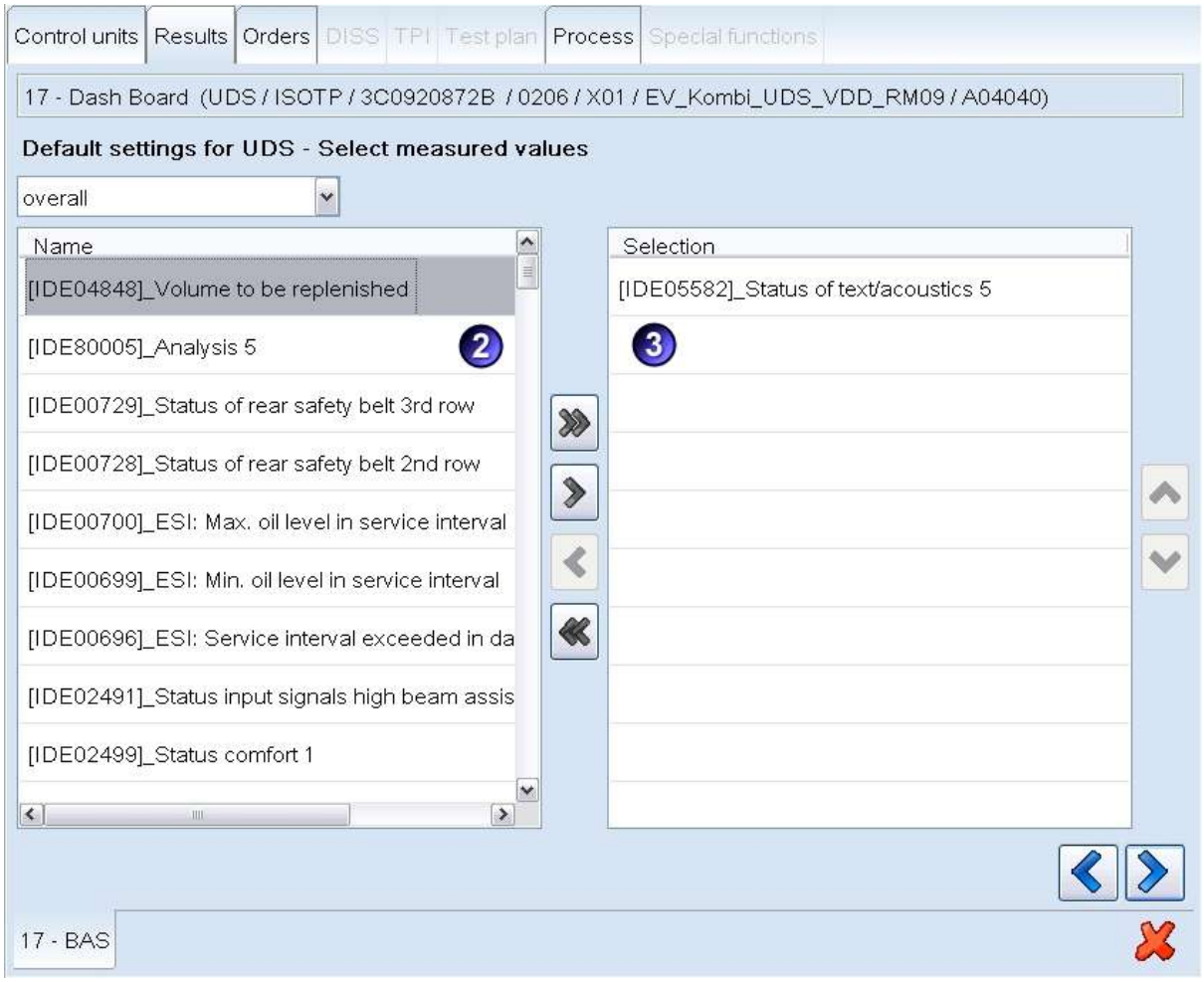



**Figure 6.126. UDS default setting - Measured value selection**

This view can be used to select measured values for every default setting displayed during the process. In addition, global measured values can also be selected, i.e. measured values that apply to all default settings.

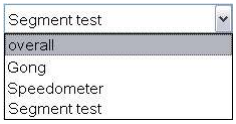



**Figure 6.127. Selecting the default setting**

The pop-up menu at the top (1) lists all previously selected default settings. The first entry is always "**overall**". The measured values are assigned to this entry that do not apply to a specific default setting but to the entire control unit.

The available measured values are displayed for the default setting selected or for the "overall" entry on the left-hand side (2). Like for the selection of default settings, the measured values to be displayed can be selected here. The right-hand list (3) contains the selected measured values. It is empty to start with.

Moves the selected measured values from the left-hand list into the right-hand list.

Moves all measured values into the right-hand list.

Moves the selected measured values from the right-hand list into the left-hand list.

Moves all measured values into the left-hand list.

The list of selected measured values (3) can be sorted. To do this, select exactly one measured value from the right-hand list.

Moves the entry up one position.

Moves the entry down one position.

Switches to the **execution of the default settings**.

Switches back to the previous view. Even if parameters are modified or default settings added or removed there, the selection of measured values for the remaining default settings is retained.

**Configuration of the default settings**

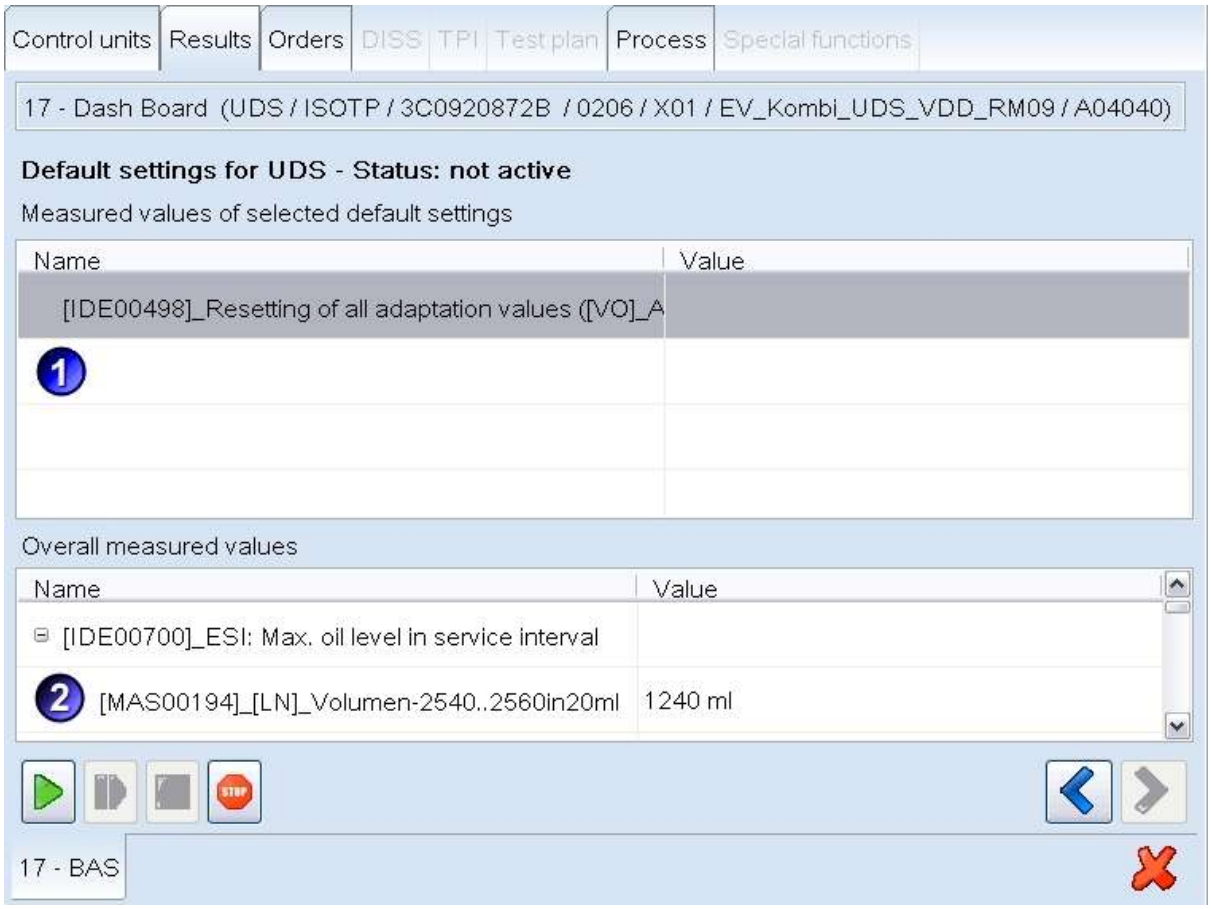



**Figure 6.128. UDS default setting - Configuration**

**Name**: The name of the default setting, measured value or group of measured values.

**Value**: The measured value.

The actual default setting for the control unit is configured in this view. A list at the top (1) displays the default settings and – closed by default to start with – the corresponding measured values. Click on + to display these measured values.

The list at the bottom (2) displays all global measured values and groups of measured values.

Measured values may be combined to groups. In this case, there is a + in front of the group designator and the column on the right does not have any values. Click on + to open the group and display its measured values. Click on - in front of the group designator to close the group again.

The **status** of the currently selected default setting is displayed above the two tree structures in the **UDS default settings - Status** field. Some possible status indications may be: *active*, *not active*, *ended*.

To start with, the default settings to be configured need to be selected first. For this, you can select one or more default settings by clicking on them.

starts the configuration of the default settings.

stops the configuration of the default settings.

stops **all** active default settings.

 switches to the next default setting.

 switches back to the parametrisation. For this, the configuration of the default setting is interrupted. That also applies if the tab is closed or exited. If the user then returns to the **Configure default setting** view, it is not automatically continued but needs to be re-started manually.

If you clicked on  to switch to the next default setting, click on  to execute the currently selected default setting. When it is finished, the process is continued with the next default setting in the list. Once the end of the list has been reached, the first list entry follows. The measured values of the currently configured default setting are open by default. All other are closed, however.

During this process, the  button is disabled and greyed out:  . Click on  to stop the currently configured default setting. It can be continued with  . For this, the currently selected default setting is used to start, regardless of at which point the process was interrupted.

Some default setting operations require the user's action. If that is the case, the required action is displayed in the table of measured values for the currently active measured value. Once the action has been performed, the process of defining settings is automatically continued.

**⇨ Reference:**

See also the example for KWP control units.

After configuring the default setting, the newly configured measured values are displayed. If the default setting was not successful, a dialogue appears with an error message that needs to be confirmed by the user. Depending on the type of error that occurred, the messages may differ, e.g. stating that communication with the vehicle could not be established. After rectifying the problem, the process of configuring the default settings can be repeated.

**⇨ Reference:**

See also "Error messages" chapter.

## 6.6.2.5. Identification

The self-diagnosis function **Identification** is for reading various permanent values out of the control unit, such as part number, software version etc. These values can only be displayed, they cannot be modified.

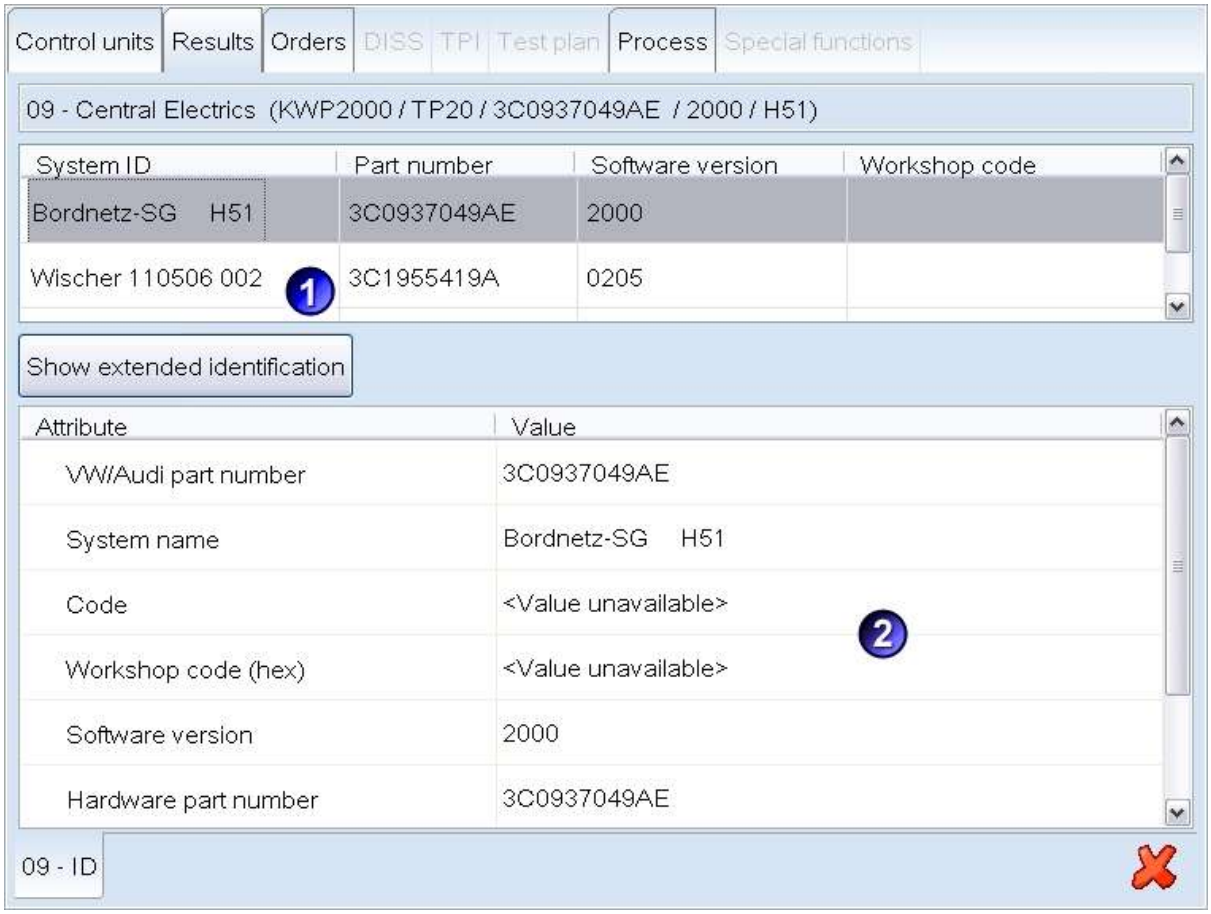



**Figure 6.129. Results window of self-diagnosis identification**

In this example, the control unit for the central electrics has been selected **and identification** has been performed.

The table at the top 1 has four columns containing information read out of the control unit.

**System identification**: The name of the control unit.

**Part number**: The unique part number of the control unit.

**Software version**: The current software version.

**Workshop code**: The workshop code.

The main control unit addressed is displayed in the very top row of the table. Further auxiliary control units that can be accessed via the main control unit are displayed in the following rows – if available. This is the wiper module in the example above.

To display additional identification characteristics, select the respective entry in the table at the top.

For the information displayed in the table at the bottom 2 the user can switch between the standard identification characteristics and the extended identification characteristics of the system selected above. The **Show extended**

**identification** button is used for this purpose. If it is confirmed, the extended identification is displayed and the button is given the caption: **Show standard identification**. After selecting an entry from the upper table, the standard identification is automatically displayed first.

## 6.6.2.6. Measured values

The control unit for which the selection has been made is shown in the upper left part of the tab. The example shows the engine's electronics. The **Measured values** tab has two views: one for configuring the measured values to be recorded (see figure at the top) and one for displaying the test results. After compiling the measured values to be displayed in the first view, as shown in the figure above, use the **Display measured values** button to open the measured value display.

The configuration of the measured values to be displayed deviates, depending on whether the measured values were read by control units with KWP protocol or by control units with UDS protocol.

### 6.6.2.6.1. Measured values with KWP control units

The measured values to be read out must be selected first:

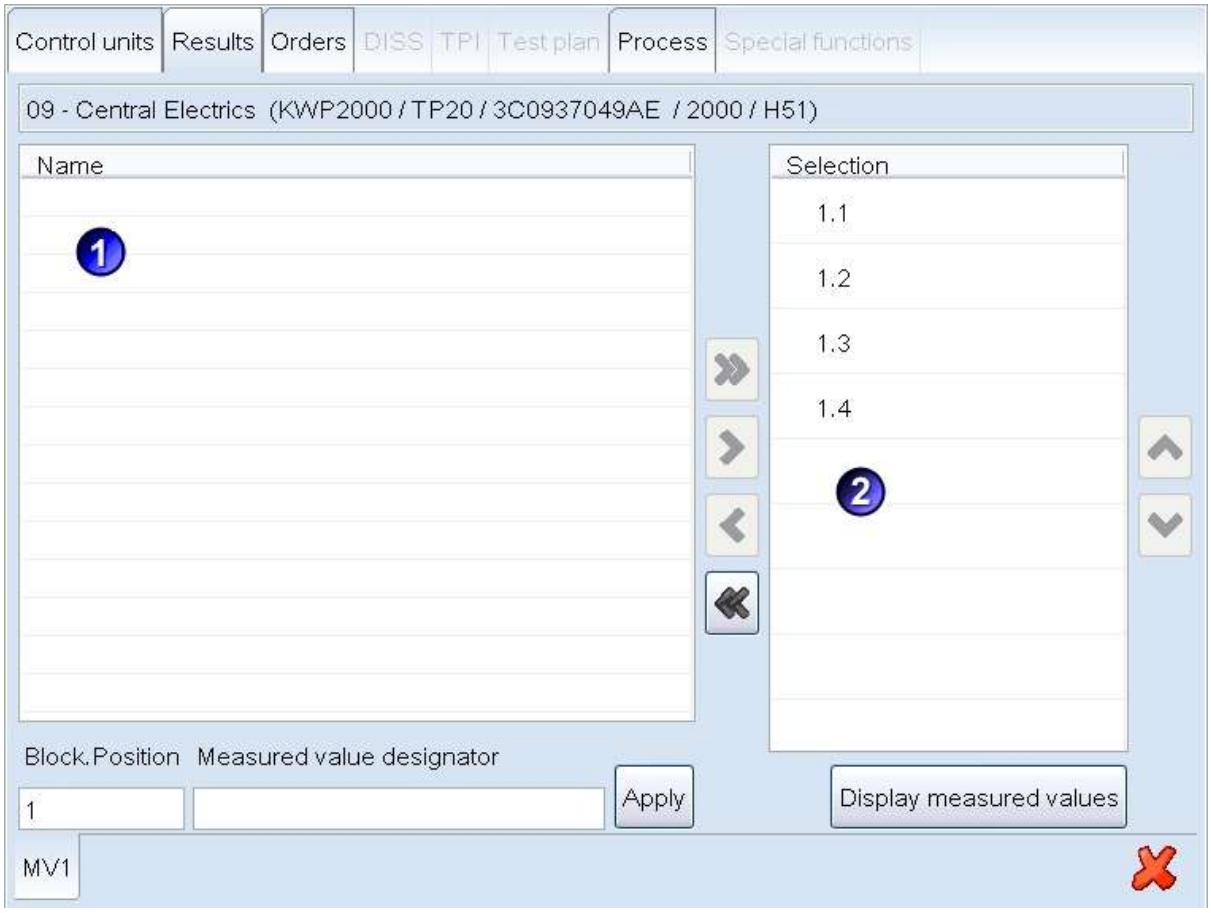



**Figure 6.130. Measured value selection (KWP)**

For control units with KWP protocol, measured value blocks are read out with up to four measured values. The measured value block numbers (1 to 254) and, if necessary, the measured value position within the corresponding measured value block are entered in the **Block.Position** text field, separated by a dot. After the entry has been made, the **Apply** button is enabled. If a block number outside the valid value range is entered, **Apply** remains disabled.

Click on **Apply** to transfer the entry to the right-hand list 2 containing the selected measured values. If only the **block number** is entered, when you click on **Apply** all four measured values of this block are displayed. By

entering further measured values, any number of measured values from different blocks can be configured for the display.

---

**Example:**

Input: 8 ⇨ **Apply** ⇨ Applied selection: 8.1, 8.2, 8.3, 8.4

• All measured values of the block are applied.

Input: 1.2 ⇨ **Apply** ⇨ Applied selection: 1.2

• Only the measured value at the selected position is applied

---

Clicking on the required measured value block in one of the two lists enables the buttons for moving.

 Moves the selected measured value blocks into the left-hand list 1.

 Moves the selected measured value blocks into the right-hand list 2.

 Moves all measured value blocks into the left-hand list

 Moves all measured value blocks into the right-hand list

The list of selected measured value blocks 2 can be sorted:

 Moves the selected entry up one position.

 Moves the selected entry down one position.

These buttons can be used in the same way for **UDS control units** after selecting the measured value designators, as described above.

Clicking on the **Display measured value** button displays the measured values for the measured value blocks in the right-hand table in the results view. At the same time, the current measured values are read out and displayed in a table.

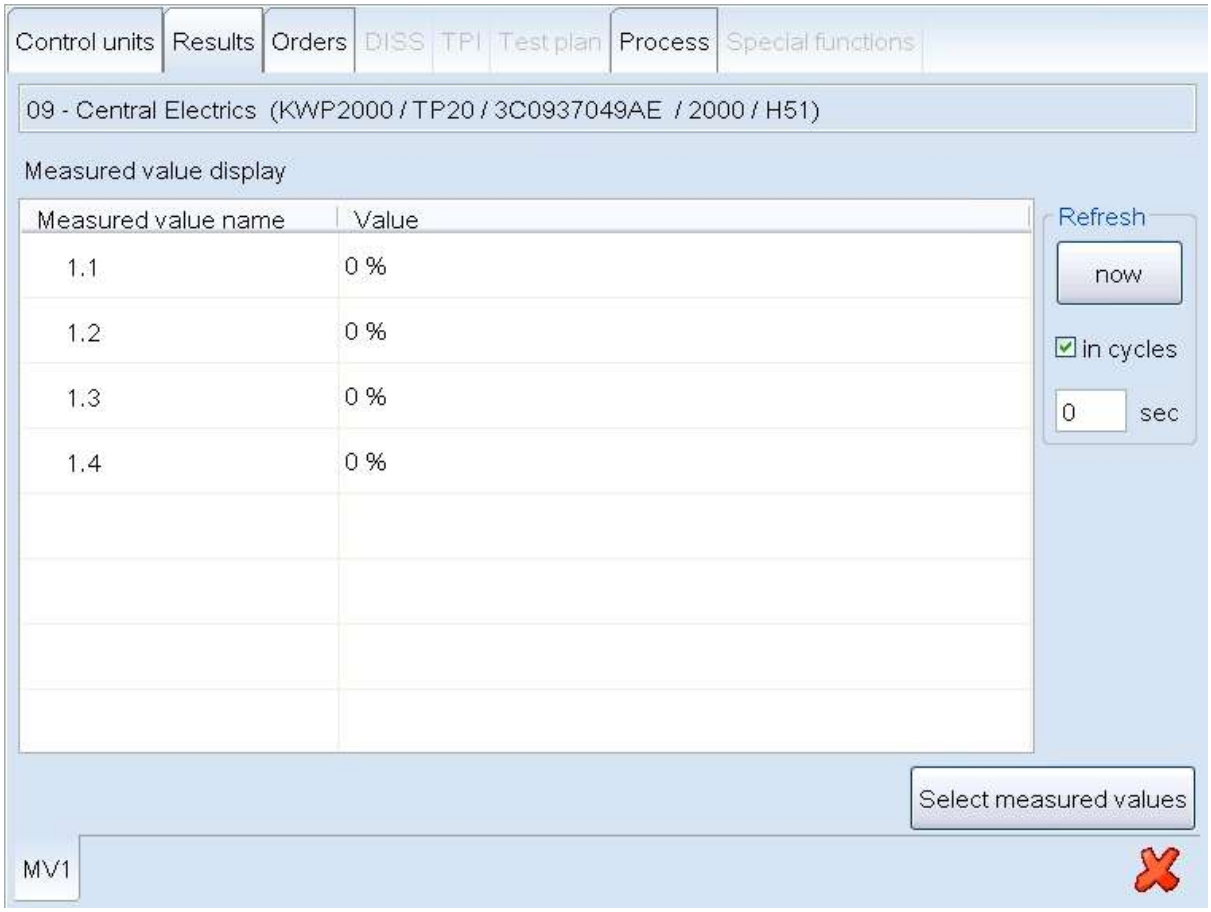



**Figure 6.131. KWP measured value display**

**Measured value name**: The name of the measured value block.

**Value**: The measured value.

Updating the measured values can be controlled using the control elements in the **Update** area. In the standard case, the measured values are updated in cycles as soon as possible.

You can set the desired update interval in seconds in a text field. Update in cycles can be deactivated by deselecting the "in cycles" checkbox. If this option is deselected, you can update the measured values specifically using the **now** button.

You can use the **Select measured values** button to return to the initial view and then change the selection of the measured values to be displayed.

## 6.6.2.7. Actuator diagnosis

Configuration of the actuator diagnosis and of the measured values to be displayed deviates, depending on whether the function is executed on control units with KWP protocol or with UDS protocol.

### 6.6.2.7.1. Actuator diagnosis on KWP control units

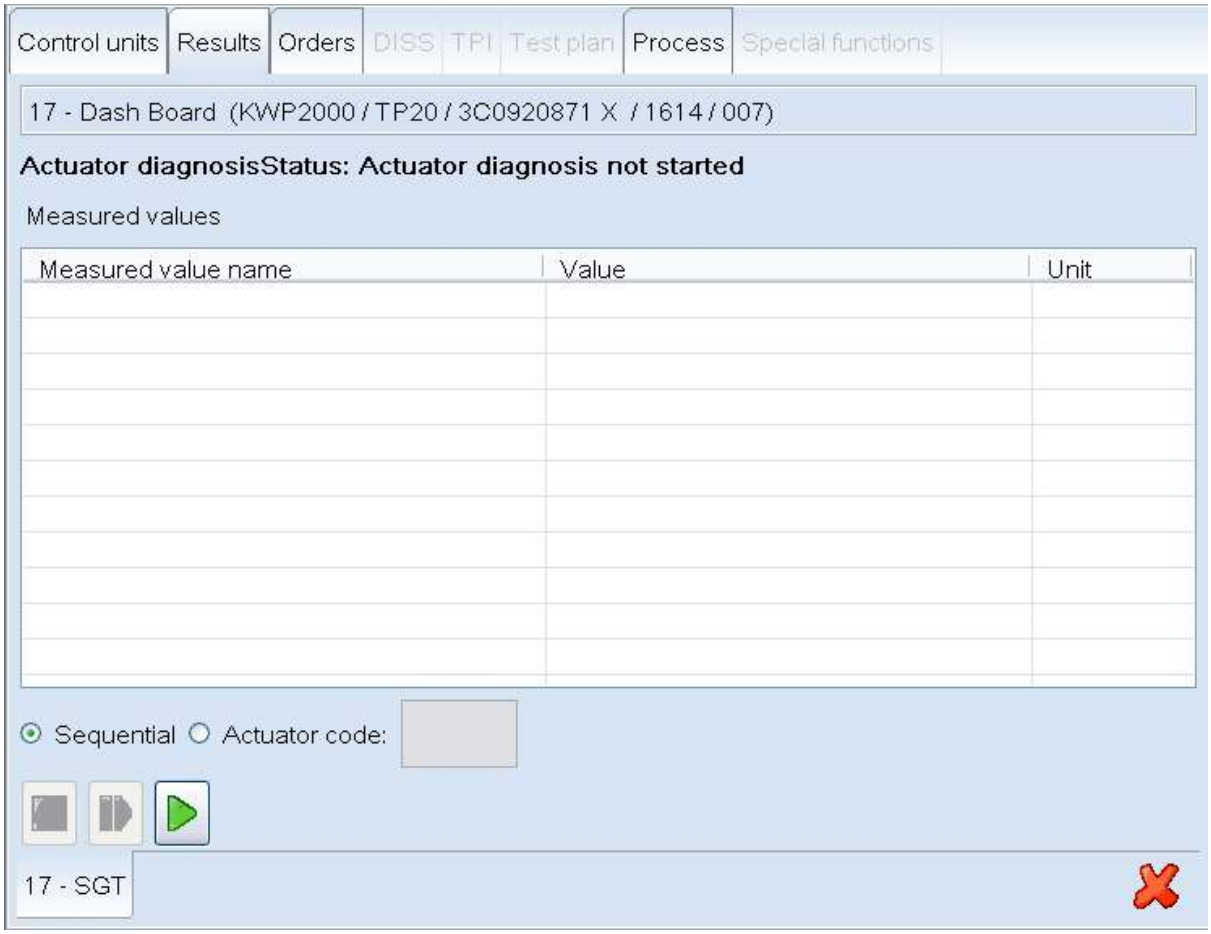



**Figure 6.132. KWP actuator diagnosis**

**Measured value name**: The name of the measured value

**Value**: The measured value.

**Unit**: The unit of the measured value.

For control units with KWP protocol, you can choose between **selective** and **sequential actuator diagnosis**. The selection is set to **Sequential** by default. Depending on the control unit, not all diagnostic types are supported. In this case, the buttons are disabled.

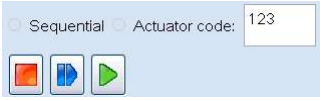



**Figure 6.133. Buttons for actuator diagnosis**

 Starts actuator diagnosis.

 Switches to the next actuator (not supported by all control units).

 Stops actuator diagnosis.

If the user enters a numeric **actuator code**, selective actuator diagnosis is automatically active.

If the user wants to switch back to sequential actuator diagnosis after entering a code, the entered code must be deleted first. Only then can **Sequential** be selected again. It is not possible to select both sequential actuator diagnosis and an actuator code.

Only if one of the two options is selected - and this is also supported by the control unit - is the  button enabled. Click on this button to start actuator diagnosis.

1. **Selective actuator diagnosis (KWP 1281 and KWP 2000)**

   The actuator test is started and the text field for the actuator code is blocked until the function has been ended or cancelled.

2. **Sequential actuator diagnosis (KWP 2000 only)**

   After starting the diagnosis of the first actuator, the  button and the text field for the actuator code are disabled until the function has ended itself or is cancelled by the user clicking on the  button.

   Some control units permit diagnosis to be continued on the next actuator during the functional sequence. In this case, the  button is enabled while the function is in progress. Click on this button to stop diagnosis on the current actuator and continue it on the next actuator.

For control units that use the KWP 2000 protocol, measured values are read in cycles by the control unit in addition to the diagnostic status. A selection is not possible. The measured values displayed are specified by the control unit.

When actuator diagnosis is finished, the test result is displayed in the **Actuator diagnosis - Status** field.

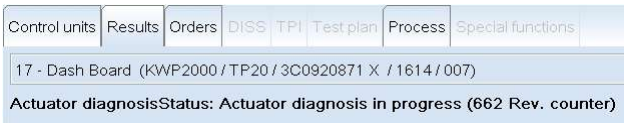



**Figure 6.134. Actuator diagnosis status**

If additional values were read by the control unit, they are displayed in the **Measured values** table. The left-hand column contains the name of the measured value, the measured value is displayed in the column in the middle and its unit is displayed in the right-hand column.

### 6.6.2.7.2. Actuator diagnosis on UDS control units

For control units with UDS protocol, actuator diagnosis can be configured more extensively. After selecting the **Actuator diagnosis** function for a UDS control unit, the user is first taken to the **Actuator selection** view (see fig. UDS actuator selection). A list of the available actuators of the control unit appears, which that can be parametrised individually. The actuator tests selected and configured this way can then be performed in succession or simultaneously.

The function can be exited in all states by closing the tab. If the tab is exited (e.g. by selecting a different tab) or if the view is changed, the status of the function is retained in terms of parametrisation. However, all currently active actuator tests are stopped. That also applies if you switch from the conduction of actuator diagnosis back to the parametrisation. It is therefore not possible to add or parametrise individual actuators during an active actuator diagnosis.

The four phases of actuator diagnosis for UDS control units are described in the following in detail.

1. **Actuator selection**

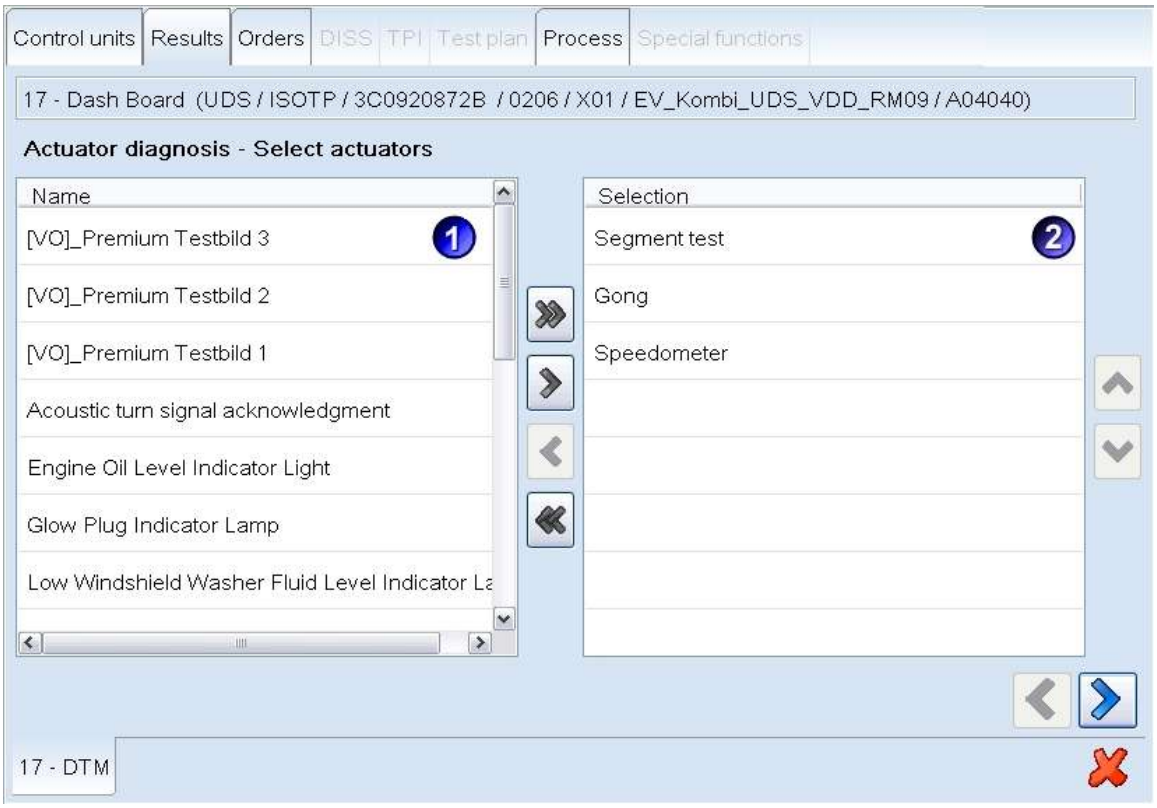



**Figure 6.135. UDS actuator selection**

The left-hand list (1) in this view contains all actuators available for the selected control unit. This list can be sorted alphabetically by clicking on the column heading. The right-hand list (2) contains the actuators to be tested. It is empty to start with.

You can select one or more actuators either by clicking on them or using the keyboard. The first actuator is selected that starts with the letter entered. If the same letter is entered again, the next element with this initial letter is selected.

**⇨ Reference:**

More information on using the keyboard is available in the table of "Shortcuts".

Clicking on an actuator in one of the two lists enables the buttons for moving.

Moves the selected actuators into the left-hand list 1.

Moves the selected actuators into the right-hand list 2.

Moves all actuators into the left-hand list.

Moves all actuators into the right-hand list.

The list of selected actuators 2 can be sorted:

Moves the selected entry up one position.

Moves the selected entry down one position.

Switches to the next view, **Parametrisation.**

2. **Parametrisation**

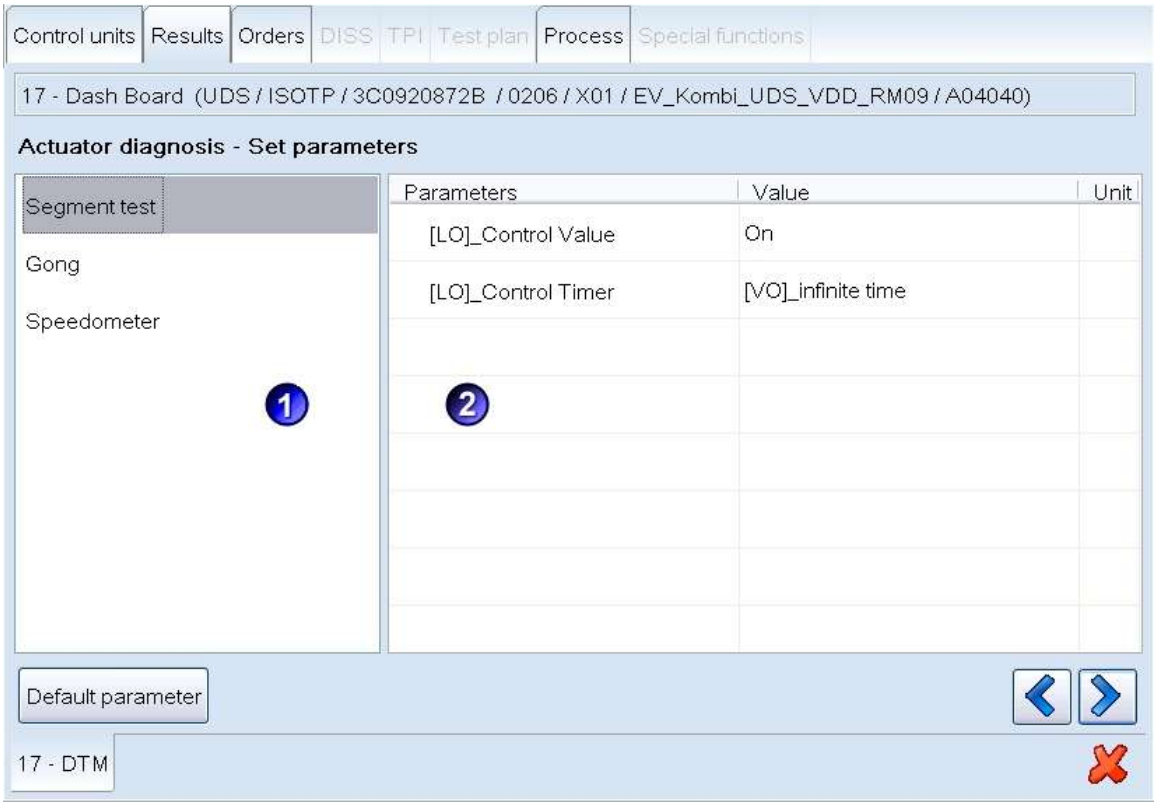



**Figure 6.136. UDS actuator parametrisation**

The left-hand list 1 contains the actuators selected in the previous view. The first actuator is selected by default.

The available parameters are displayed for each actuator selected in the right-hand table 2 . Depending on the type of parameter, its value in the right-hand column may be selected from a pop-up menu or entered as

desired. If you enter the value freely, whether it is valid is checked. If problems are detected or if a value is missing, the respective parameter is marked in red and the corresponding actuator is displayed in bold red characters:

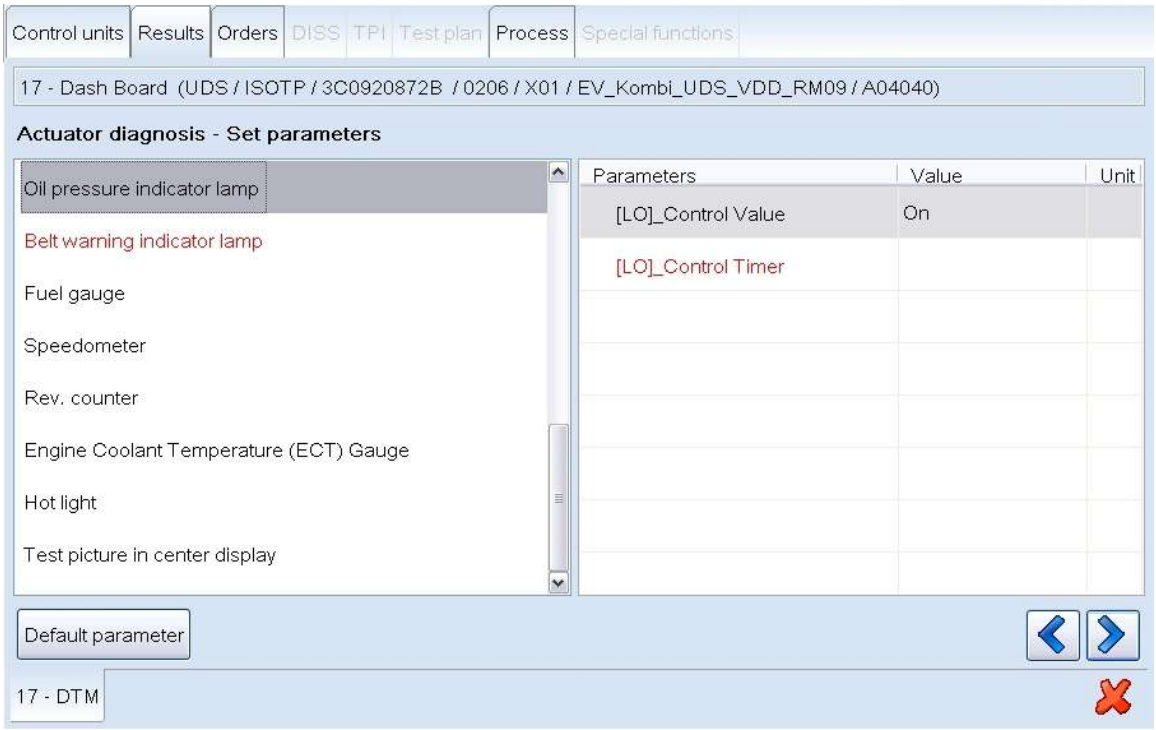



**Figure 6.137. UDS actuator diagnosis - Parametrisation problems**

To set all parameters to their corresponding default values, click on the **Default parameters** button. Whether values are missing or invalid is checked in this case too, and the relevant parameters and actuators are marked accordingly.

Switches to the next view, the **Measured value selection.** As long as problems still exist during parametrisation, i.e. at least one parameter is marked in red, clicking on the button will cause an error message to be displayed informing the user that there is still a data problem. You can only switch to the next view when all parameters have valid values, i.e. when no parameters are marked in red any more.

Switches back to the previous view. Even if actuators were added or removed there, all settings made are retained for the remaining actuators.

**Reference:**

See also chapter "Error messages"

3. **Measured value selection**

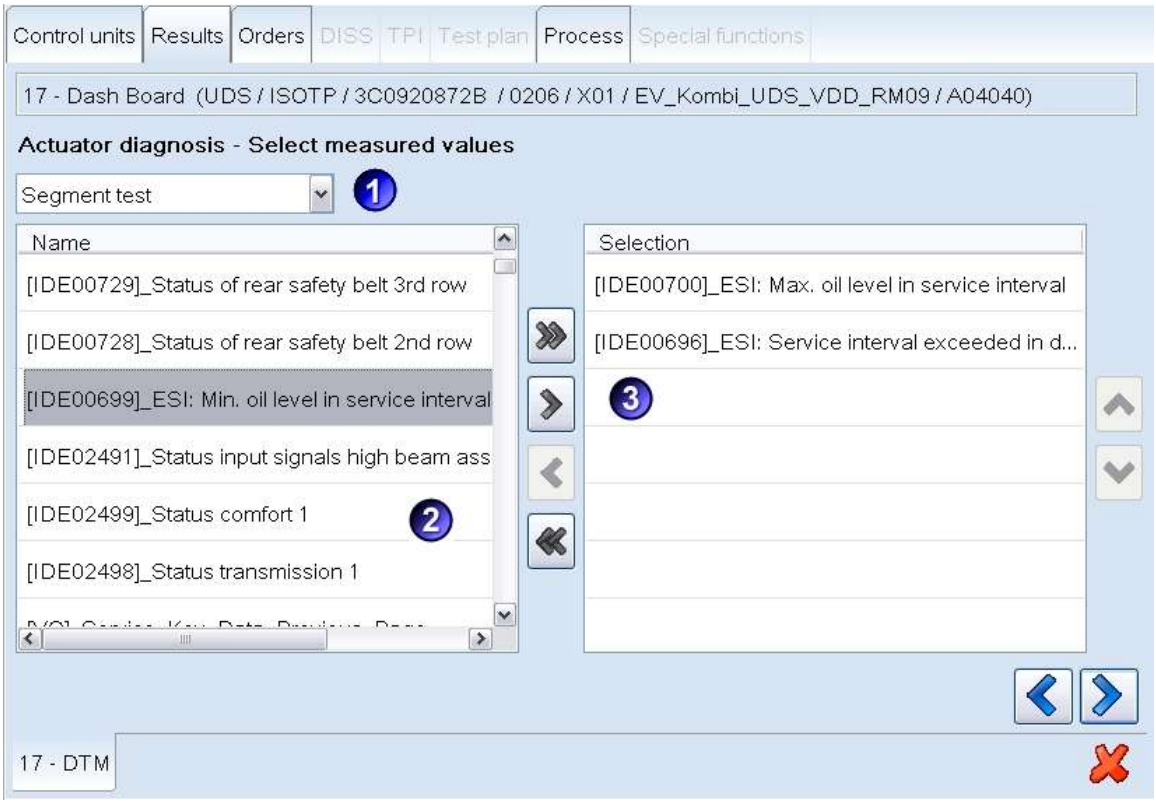



**Figure 6.138. UDS measured value selection**

This view can be used to select measured values for every actuator displayed during the conduction of the actuator tests. In addition, global measured values can be selected for actuators.

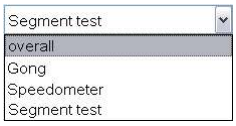



**Figure 6.139. Selecting the actuator**

The pop-up menu at the top (1) lists all previously selected actuators. The first entry is always the "**overall**" value to which the measured values are assigned that do not apply to a specific actuator but to the entire control unit.

The left-hand list (2) displays the measured values available for the selected actuator or for the "overall" entry. Like for the selection of actuators, the measured values to be displayed can be selected here. The right-hand list (3) contains the selected measured values. It is empty to start with.

Clicking on a measured value in one of the two lists enables the buttons for moving.

Moves the selected measured values into the left-hand list (2).

Moves the selected measured values into the right-hand list (3).

Moves all measured values into the left-hand list.

Moves all measured values into the right-hand list.

The list of selected measured values (3) can be sorted:

Moves the selected entry up one position.

Moves the selected entry down one position.

**Reference:**

The measured values can also be selected using the keyboard. Information on using the keyboard is available in the table of shortcuts.

Switches to the **conduction of the actuator diagnosis**.

Switches back to the previous view. Even if parameters are modified or actuators added or removed there, the selection of measured values for the remaining actuators is retained.

4. **Conduction of actuator diagnosis**

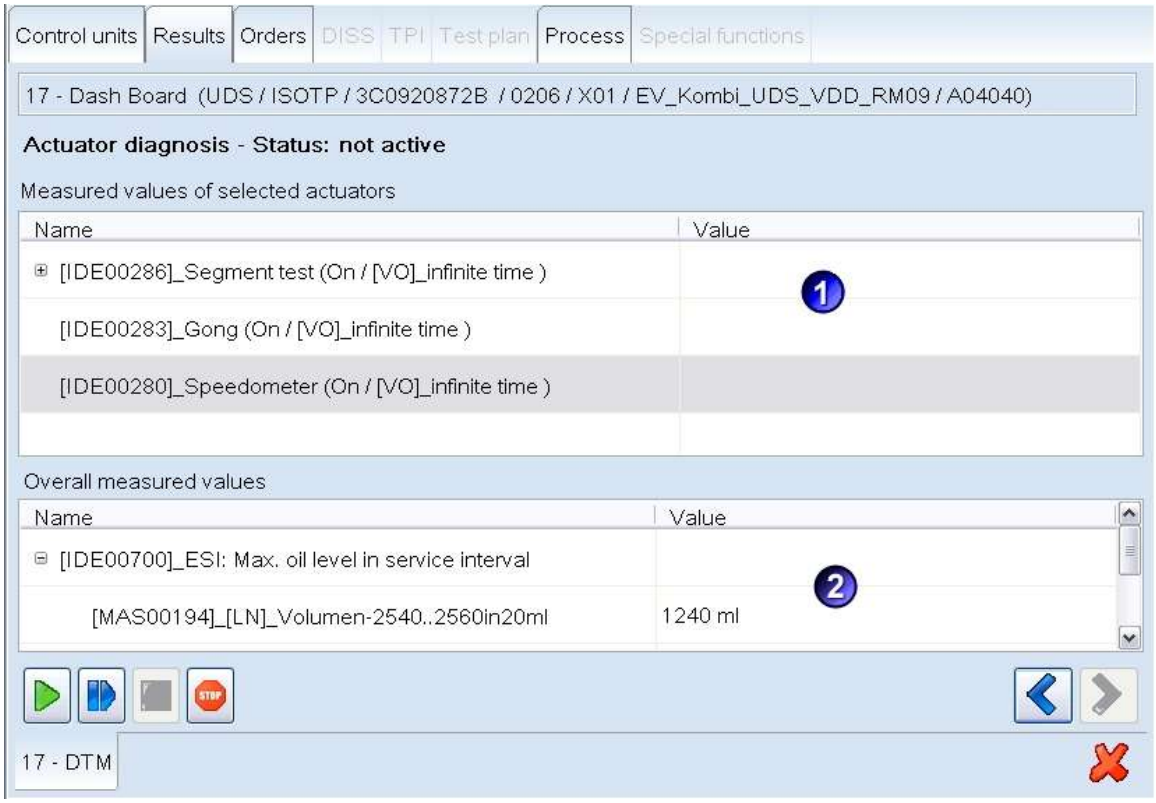



**Figure 6.140. UDS actuator diagnosis**

The actual **actuator diagnosis** is performed in this view. At the top, the selected actuators and, closed by default to start with, the corresponding measured values are displayed in a tree structure (1) . Click on + to display these measured values. The actuator parameters and their values are displayed if you move the mouse pointer over an actuator.

All global measured values for actuators are displayed in the tree structure (2) at the bottom.

Measured values may be combined to groups. In this case, there is a + in front of the group designator and the column on the right does not have any values. Click on + to open the group and display its measured values. Click on - in front of the group designator to close the group again.

The status of the currently selected actuator test is displayed above the two tree structures in the **Actuator diagnosis - Status** field. Some possible status messages may be: *active*, *not active*, *ended*.

To start actuator diagnosis, the actuators to be checked need to be selected first. You can select one or more actuators by clicking on them.

Starts the **selective actuator test**.

Stops the actuator test.

Stops all active actuator tests.

Switches to the next actuator.

Switches to the previous view. All actuator tests are stopped when this is done. That also applies if the tab is closed. If the user then returns to the **Perform actuator diagnosis** view, the actuator tests are not automatically continued but need to be re-started manually.

**Note:**

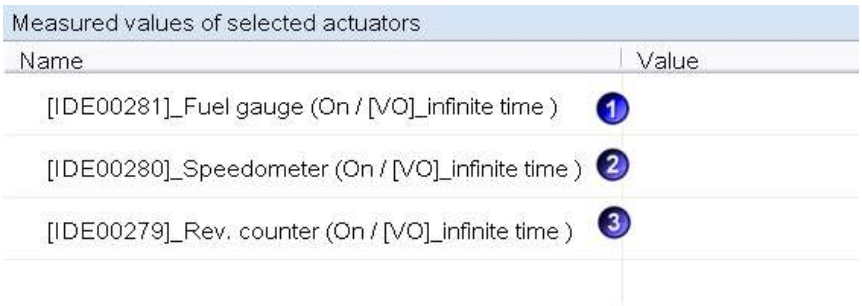



**Figure 6.141. Example of the actuator test on several actuators**

The and buttons always only apply to the currently selected actuator test.

For example, if you select the actuators 1 to 3 before starting, these tests are started by clicking on . If you then reduce the selection to actuators 2 and 3 and click on , only the actuators 2 and 3 are stopped, while actuator 1 continues. Mutually independent actuators may be started and stopped at all times.

The button can be used to also perform a **sequential actuator test** for a UDS control unit. For this, no other actuator test may be active. In addition, exactly one actuator must be selected in the list on the left. If both conditions are fulfilled, the button is enabled.

Click on  to switch to the next actuator and click on  to start the test for this actuator. If the end of the list has been reached, clicking on  takes you to the first list entry. The measured values of the currently performed actuator test are opened.

Click on the  to stop the currently active actuator test. The sequential actuator test can be continued with  and  . The test is started with the currently selected actuator, regardless of at which point the test was interrupted.

**Special features when using the keyboard**

Some settings can also be made using shortcuts with the keyboard. The following shortcuts are available:

| **Shortcut** | **Function** |
|---|---|
| CTRL + A | Selects all entries in a table |
| Tab key | For views with two selection lists: switches between the two lists |
| CTRL + left arrow | For views with two selection lists: moves an element from the right-hand list to the left-hand list |
| CTRL + right arrow | For views with two selection lists: moves an element from the left-hand list to the right-hand list |
| CTRL + up arrow | Moves the selected element one position up within a selection list |
| CTRL + down arrow | Moves the selected element one position down within a selection list |
| Shift + left arrow | Switches back to the previous view |
| Shift + right arrow | Switches to the next view |
| CTRL + P | Starts the actuator test (**P**lay) |
| CTRL + S | Stops the actuator test (**S**top) |
| CTRL + N | While an actuator test is in progress: **N**ext actuator (corresponds to the  button) |
| ESC | In the actuator diagnosis conduction view: corresponds to the  button. |

**Table 6.4. Table of keyboard shortcuts**

## 6.6.2.8. Access authorisation

A dialogue opens with different contents, depending on the protocol.

### 6.6.2.8.1. Control units with KWP 1281 protocol

For control units that use the KWP 1281 protocol, access authorisation is performed automatically after clicking on the function. A message informs the user whether login was successful.

### 6.6.2.8.2. Control units with KWP 2000 or UDS protocol

After selecting the **Access authorisation** function, a dialogue opens with different contents, depending on the protocol.

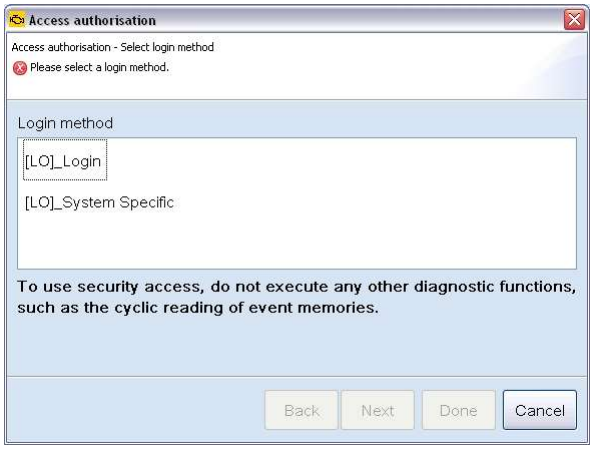



**Figure 6.142. Access authorisation**

**Back**: Switches back to the previous dialogue.

**Next**: Switches to the next dialogue.

**Done**: Performs access authorisation.

**Cancel**: Cancels access authorisation.

For control units with KWP 2000 or UDS protocol, there are several ways to perform access authorisation.

For KWP 2000, there are the following options:

- Code 2
- Security access automatic
- Security access level 3/4
- Security access level 5/6

The UDS protocol supports these options:

- Login
- System-specific access authorisation

Which of these options is displayed in the list for selection, depends on the corresponding control unit.

To perform access authorisation, select the desired option and confirm it by clicking on **Continue**. A new dialogue appears, in which a numeric code needs to be entered in the **Login code** field for authentication.

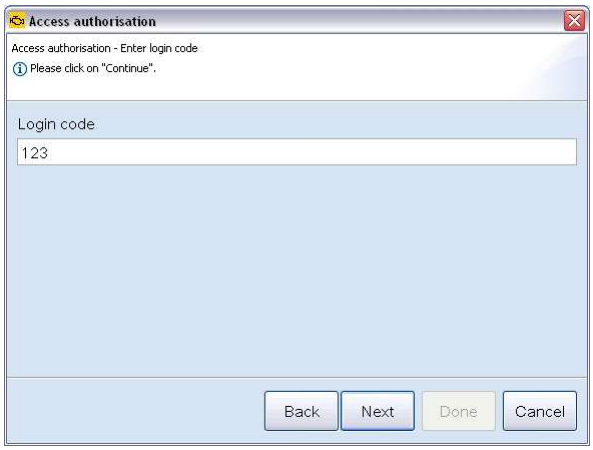



**Figure 6.143. Access authorisation - Authentication**

After clicking on the **Continue** button, authentication is performed and the result of the function is displayed. If authentication was successful, "Successful!" is displayed there. If it failed, a message is displayed accordingly. If available, more information on the cause of the error is displayed.

Click on **Details** to have any additional information displayed, if required.

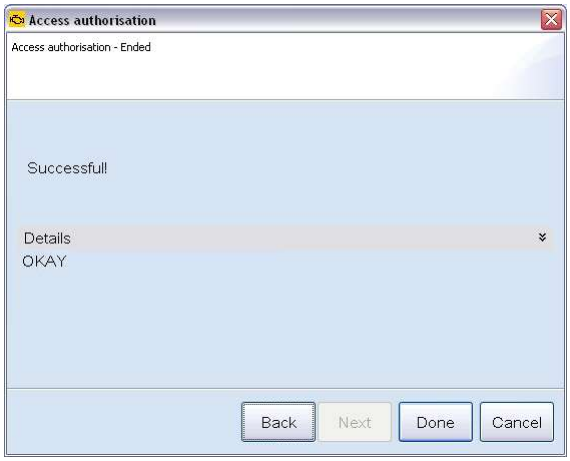



**Figure 6.144. Access authorisation - Successful**

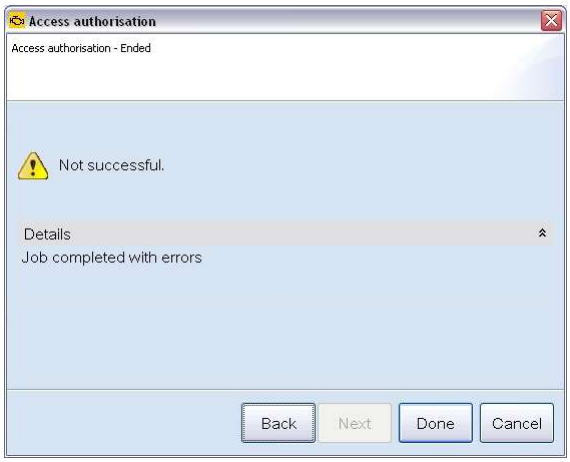



**Figure 6.145. Access authorisation - Unsuccessful**

You can use the **Done** button to end the method.

In addition, the user can use the **Back** button in every dialogue to switch to the previous step to re-enter the authentication code or select another authentication method.

To cancel the process in any dialogue, click on the **Cancel** button.

# 6.6.3. Vehicle-specific functions

## 6.6.3.1. Event memories for overall system

The **Event memories for overall system** function reads the event memories of all control units installed in the vehicle.

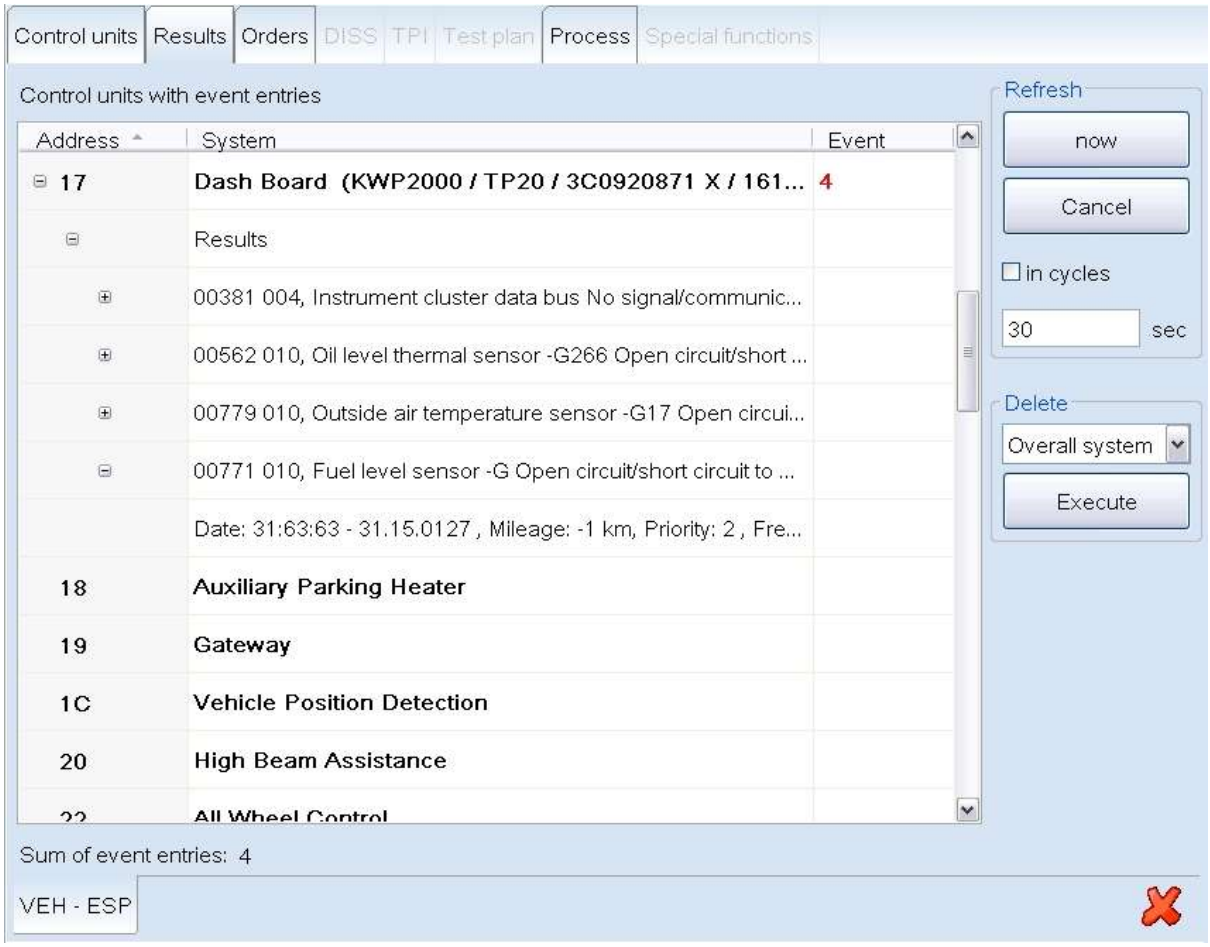



**Figure 6.146. Event memories for overall system**

The view consists of a table with three columns:

**Address**: The diagnostic address of the control unit.

**System**: The name of the control unit.

**Event**: The number of events read.

On switching to the view, the table is automatically updated, i.e. an attempt is made to read the events that occurred in each control unit installed.

If the control unit's event memory is empty, **0** is entered in green text in the same column. For control units with entries in the event memory, the number of events is displayed in red in the **Event** column. In addition, a **+** is

displayed in front of the diagnostic address. If the user clicks on it, the events that occurred are listed in detail. Additional information on an event can be displayed by clicking on the + in front of the event.

If it was not possible to read the event memory of a control unit, the **Event column** for this control unit remains empty.

The user has two ways of updating the table: by clicking on the **now** button or by ticking the **in cycles** option.

In the first case, the table is updated exactly once. To stop the update, click on the **Cancel** button.

If the user selects **update in cycles**, the table is updated continuously according to the interval displayed in the text box under the option. The value must be entered in seconds. By default, an interval of 30 seconds is used. If no value is entered, the value last entered is used. If the interval is shorter than the time required for the update, reading is started again immediately after finishing a reading cycle. The interval may be changed during the update in cycles. The new value needs to be confirmed using the Return key. To stop updates in cycles, remove the tick from the **in cycles** option. It is also possible to update the table immediately between two cycles by clicking on the **now** button.

After reading all event memories, double-click on a table row to select the **Read event memory** function for the corresponding control unit (the prerequisite for this is that it was possible to read the control unit's event memory). As a result, the content of the event memory of the selected control unit is displayed on a new tab.

**⇨ Reference:**

See "Event memory" chapter.

Once the event memory has been read completely at least once, the user may **erase** the event memory of the overall system. For this, there are several methods that depend on the control unit or vehicle. For example, the error memories can be erased **together in one go** or **in succession**:

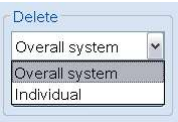



**Figure 6.147. Selecting the method for erasing the event memory**

To erase the event memory in one go, select **Overall system** from the list in this example (it is already selected by default) and confirm this by clicking on the **Execute** button. A confirmation prompt appears:




**Figure 6.148. Warning before erasing the event memory**

**Yes:** The event memories of all control units that support this function will be erased.

**No**: Erasure will not be performed.

After completing the erasure, any errors that occurred are displayed in a dialogue. If the method was successful, no other messages are displayed.

To erase the event memories of the control units one after the other, select **Individual** from the list. The confirmation prompt above appears here as well, which needs to be confirmed by the user with OK. Then, the event

memories of the control units are erased one after the other. After each erasure, the event memory of the control unit is re-read and the result is displayed in a table.

**Note:**

After erasing an event memory, it is re-read immediately and its content is displayed. If the event memory is not empty and still includes all or some events displayed before the erasure, the control unit did not accept the command for erasing or the corresponding event was immediately re-entered since the cause of the error has not been eliminated yet.

Event memory entries that have been deleted **CANNOT** be restored!

## 6.6.3.2. Transport mode

The following dialogue appears:

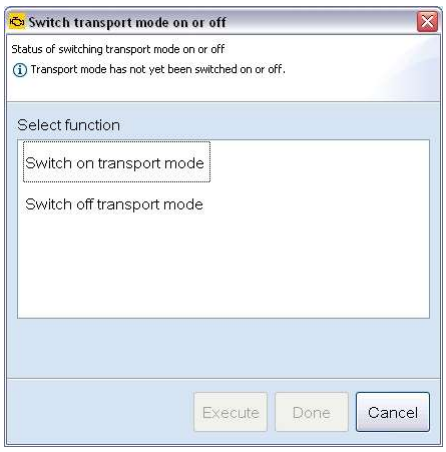

Switch transport mode on or off
Status of switching transport mode on or off
Transport mode has not yet been switched on or off.
Select function
Switch on transport mode
Switch off transport mode
Execute
Done
Cancel

**Figure 6.149. Transport mode**

**Execute**: Executes the selected function.

**Done**: Closes the dialogue.

**Cancel**: Cancels the changing of transport mode.

To switch transport mode on or off, the corresponding list entry needs to be selected and confirmed by clicking on the "Execute" button. The result of the function (successful / not successful) is displayed in the information area above the list:

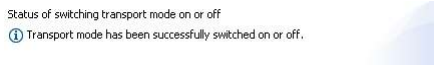



**Figure 6.150. Success message after changing transport mode**

In the event of an error, a new message appears with detailed information on the error:

**Reference:**

See also chapter "Error messages"

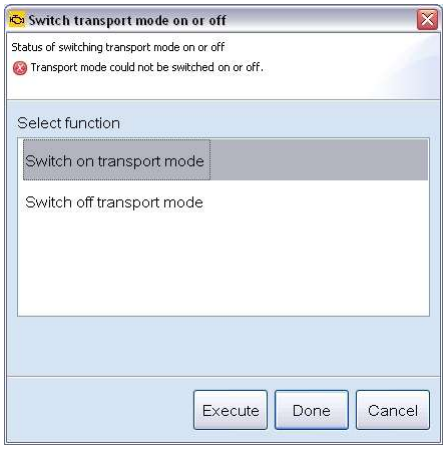

Switch transport mode on or off
Status of switching transport mode on or off
Transport mode could not be switched on or off.
Select function
Switch on transport mode
Switch off transport mode
Execute
Done
Cancel

**Figure 6.151. Transport mode**

Depending on the type of error that occurred, an additional message may be displayed with details (e.g. that the vehicle could not be connected). After eliminating the problem, a new attempt can be made to change transport mode.

## 6.6.3.3. Installation list

The actual installation coded in the vehicle is displayed in the **installation list**. In addition, the number of events that occurred for each control unit is displayed, if available.

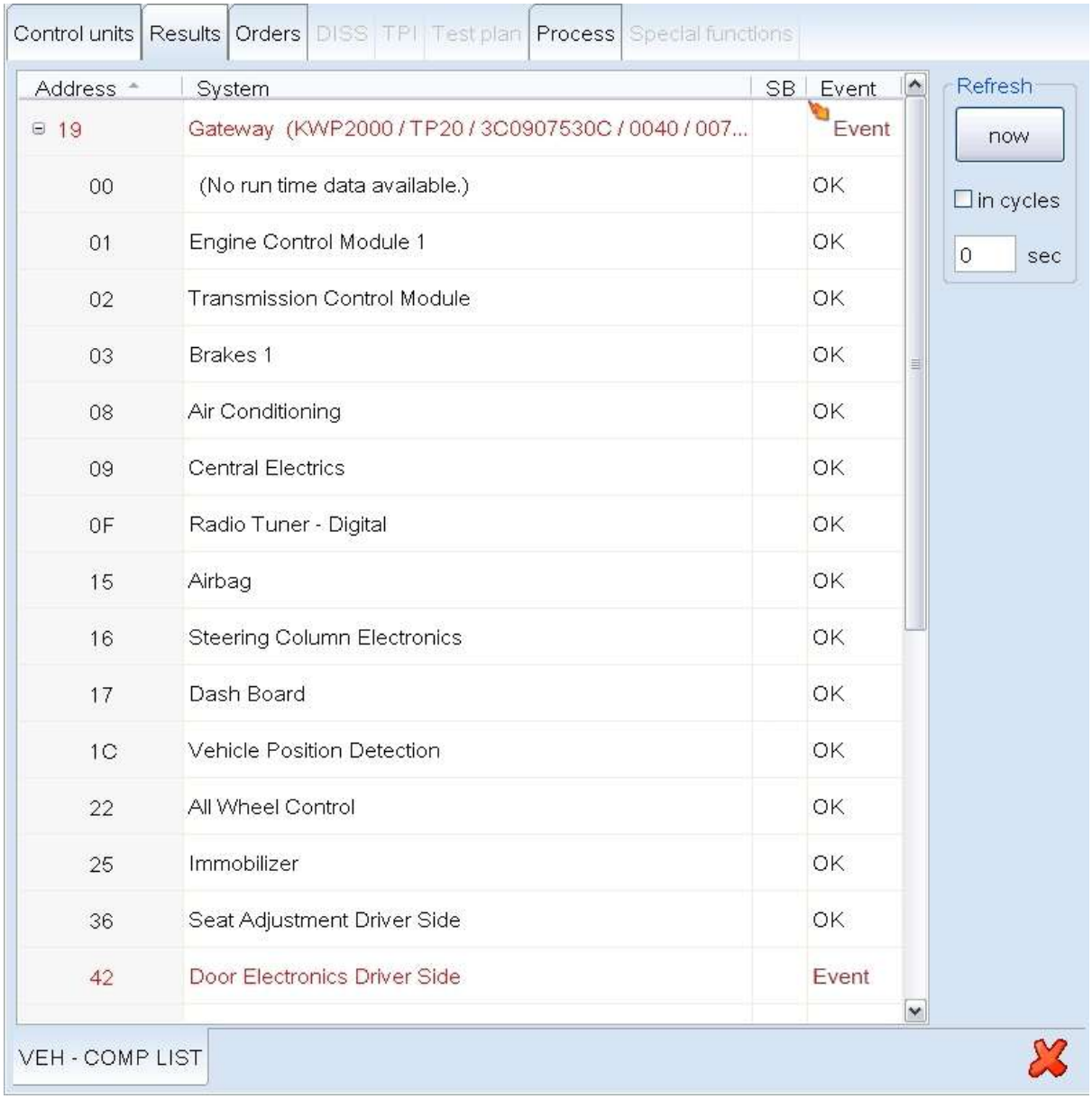



**Figure 6.152. Installation list**

**Address**: The diagnostic address of the control unit.

**System**: The name of the control unit.

**SB**: Sleep bit. Indicates whether the vehicle bus is in standby mode.

**Event**: The number of events in the control unit's event memory.

Available subsystems are also displayed. If a control unit has subsystems, i.e. subordinate control units, this is indicated by a +. Click on it to open the subsystems. The first level is open by default. In the example here, that is the diagnostic interface, to which all other control units are subordinate.

Control units for which events occurred are marked in red. In addition, the number of events is displayed in the "Event" column.

Control units coded as installed but that cannot be addressed, are marked in red and displayed in bold characters:

| | | |
|---|---|---|
| ⊞ 55 | Headlight Regulation (KWP2000 / TP20 / 5M0907357A / X014 / H01) | 0 |
| 56 | **Radio (coded => communication faulty)** | Event |
| 62 | Door Electronics Rear Left (KWP2000 / TP20 / 1K0959703K / 09XX / ---) | 1 |
| 65 | Tire Pressure Monitoring 1 (KWP2000 / TP20 / 3C0959433AA / 0420 / 051) | 0 |

**Figure 6.153. View in the event of faulty communication with a control unit**

The installation list can be updated manually or in cycles. For a single, manual update, use the **now** button.

If the user selects **update in cycles**, the table is updated continuously according to the interval displayed in the text box under the option. The value must be entered in seconds. If the interval is shorter than the time required for the update, reading is started again immediately after finishing a reading cycle. The interval may be changed during the update in cycles. The new value needs to be confirmed using the Return key. To stop updates in cycles, remove the tick from the **in cycles** option. It is also possible to update the table immediately between two cycles by clicking on the **now** button.

# Chapter 7. Flash mode

After the diagnosis, **Offboard Diagnostic Information System Service** also provides the option of flashing.

The workflow in flash mode is very similar to the one in diagnostic mode, but not as extensive. Guided fault finding and the functions for the control units are not available here.

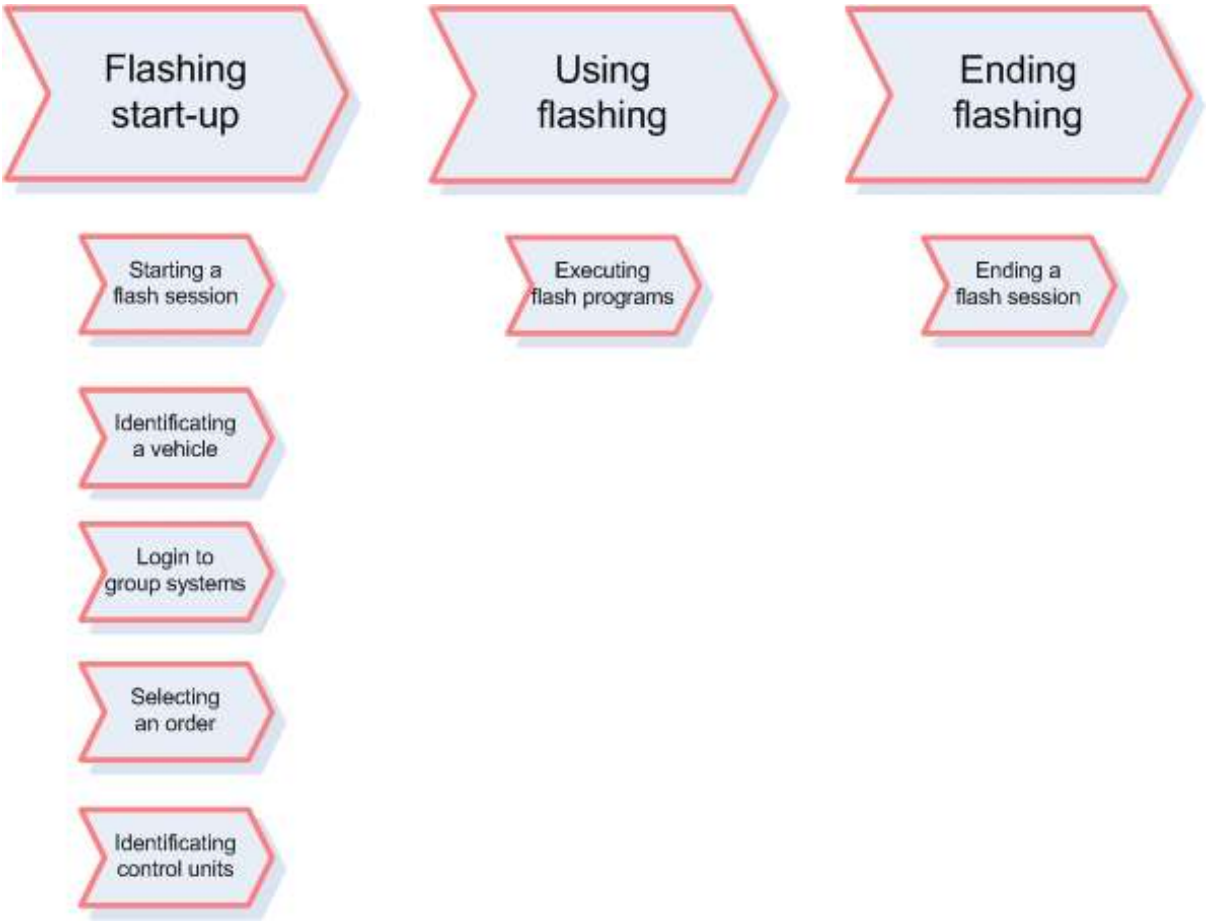



**Figure 7.1. Workflow in flash mode**

- During flash start-up, the vehicle is connected to the test device and identified, login to the Group systems is performed, an order is selected for the session and the control units are identified.
- Then, the flash programs determined for the vehicle can be executed.
- If the desired flash programs have been completed, the flash session can be ended.

# 7.1. Starting flashing

In the Start flashing section, the vehicle is connected to the test device and flash start-up takes place.

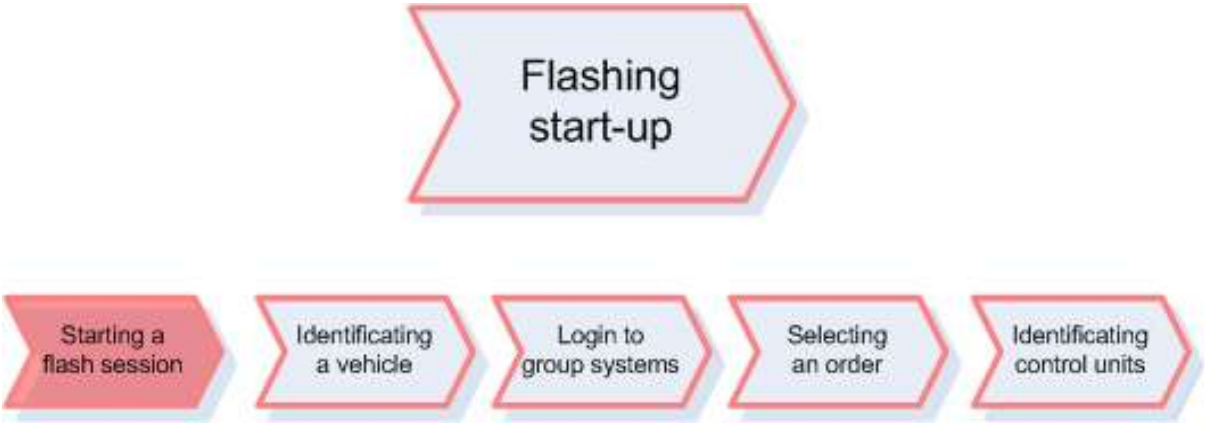



**Figure 7.2. Start flashing section**



After selecting the mode with the same name, **flashing** is available.

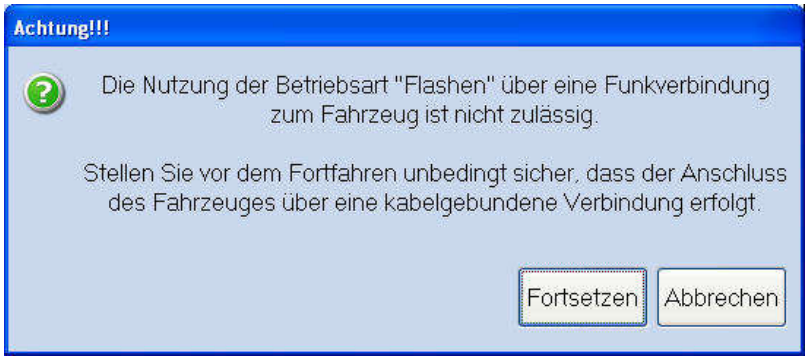
Connecting the vehicle is described in detail in the **Starting diagnosis** chapter.

**Reference:**

For more details on vehicle identification, see the "Starting diagnosis" chapter.

Note:

For legal reasons, not every diagnostic connection can be used for flashing, e.g. radio connections. If a diagnostic connection is used for flashing that is not permitted, **Offboard Diagnostic Information System Service** will display an appropriate warning and request that you use a connection with **legal approval**.


Achtung!!!
Die Nutzung der Betriebsart "Flashen" über eine Funkverbindung zum Fahrzeug ist nicht zulässig.
Stellen Sie vor dem Fortfahren unbedingt sicher, dass der Anschluss des Fahrzeuges über eine kabelgebundene Verbindung erfolgt.
Fortsetzen
Abbrechen

**Reference:**

For a detailed description of how to change the diagnostic hardware, see "VCI".

If a permitted diagnostic connection has been selected and the vehicle is connected, flash start-up can begin.

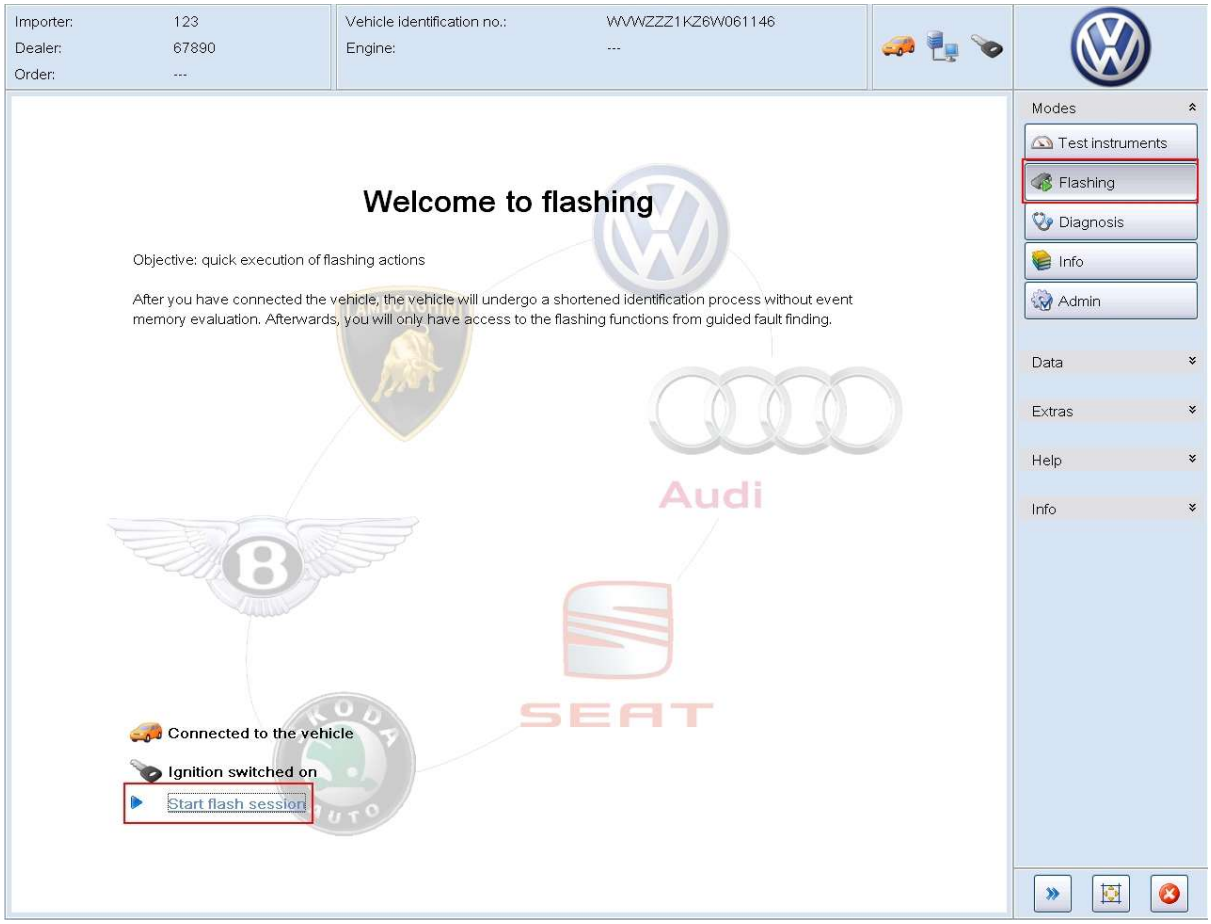



**Figure 7.3. Start window for flash start-up**

Start flash session Click on **Start flashing** to start flash start-up.

# 7.2. Vehicle identification

The vehicle is identified after starting flash start-up.

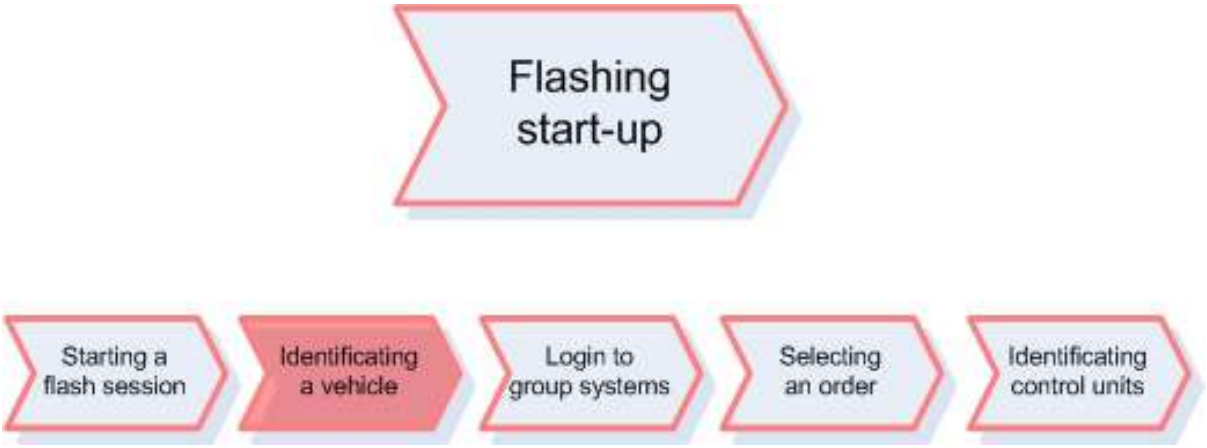



**Figure 7.4. Identify vehicle section**

**Offboard Diagnostic Information System Service** attempts an automatic vehicle analysis first.

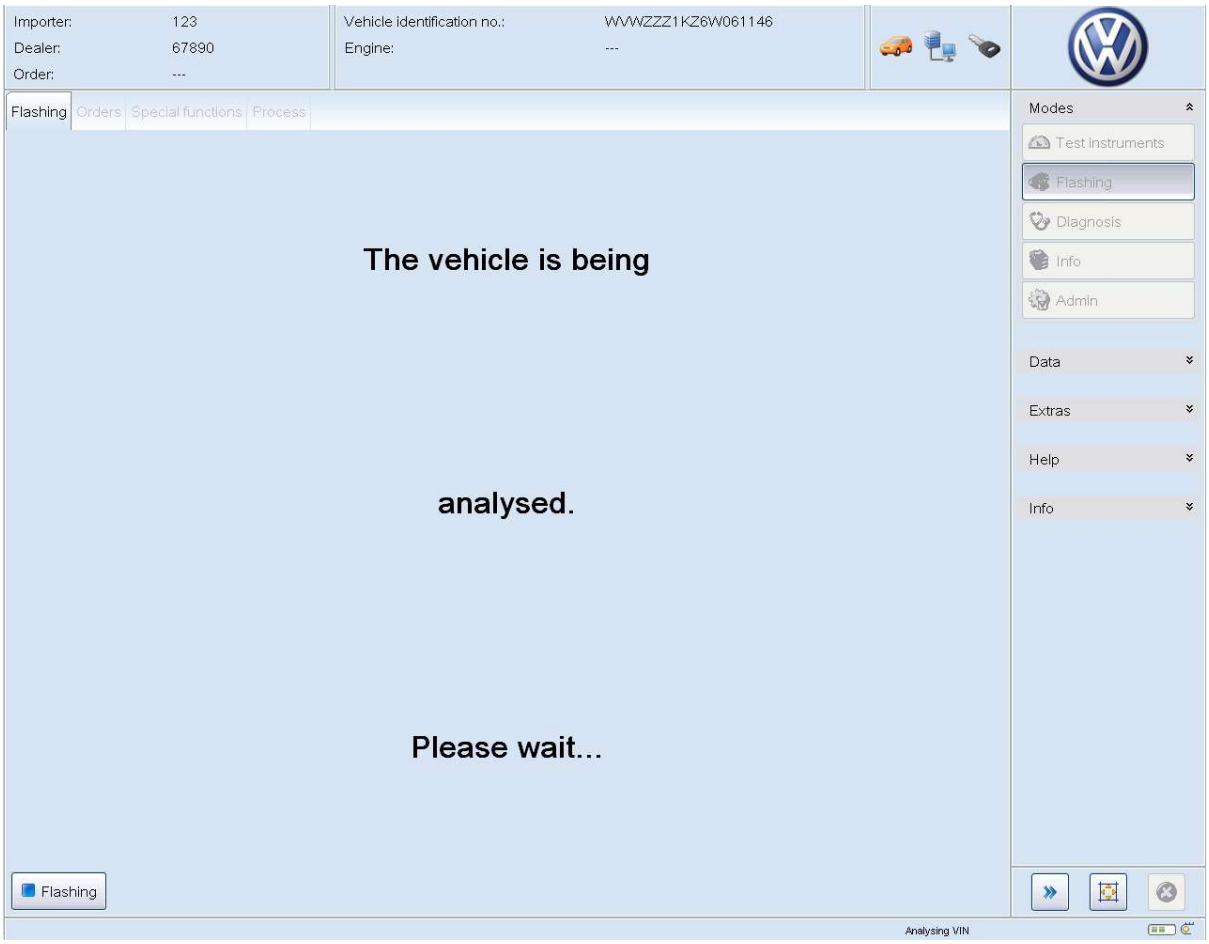



**Figure 7.5. Vehicle analysis during flash start-up**

If the vehicle **is identified completely**, i.e. VIN, brand, model and model year are unambiguous and familiar, vehicle identification is performed fully automatically without displaying a basic vehicle characteristics dialogue.

If automatic vehicle identification fails, **Offboard Diagnostic Information System Service** displays a basic vehicle characteristics dialogue with information on the **VIN**, **manufacturer**, **model** and **model year**.

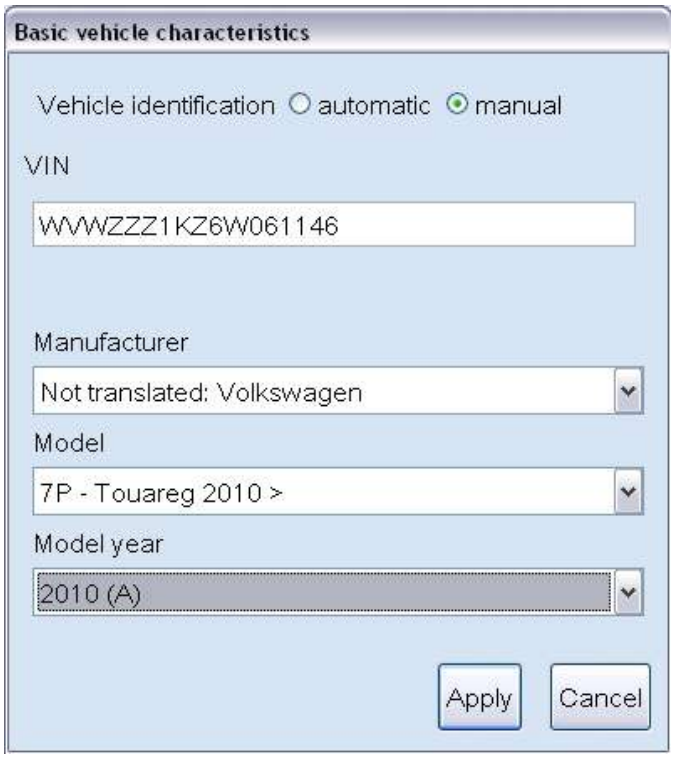



**Figure 7.6. Manual vehicle identification**

This dialogue can be used for the manual selection of the essential basic vehicle characteristics.

**Apply**: The selected basic vehicle characteristics are applied and flash start-up is continued.

**Cancel:** Vehicle identification is cancelled.

⇨ **Reference:**

A detailed description of the basic vehicle characteristics dialogue is available in the "Basic characteristics dialogue (GMD)" chapter.

Note that the GMD for flash start-up is less detailed.

It is possible to switch between **manual** and **automatic** vehicle identification.




**Figure 7.7. Automatic vehicle identification**

For example, the VIN can be entered manually and subsequent identification performed automatically, if possible. During automatic vehicle identification, the basic characteristics on a grey background cannot be changed any more.

**Apply:** Flash start-up is continued.

**Cancel:** Vehicle identification is cancelled.

Vehicle identification is thus completed.

# 7.3. Login to the Group systems

Login to the Group systems takes place in the next flash start-up section.

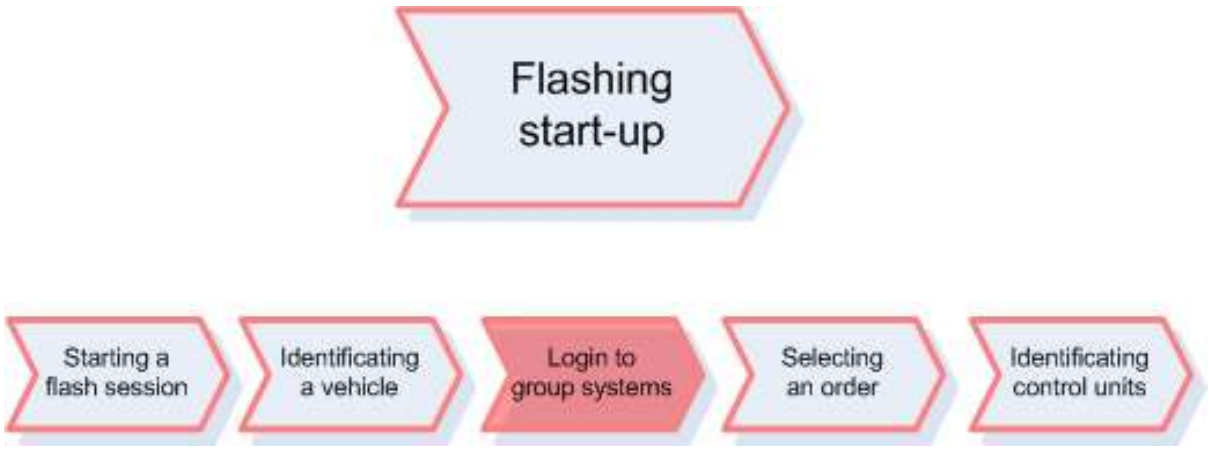



**Figure 7.8. Login to Group systems section**

To login, **Offboard Diagnostic Information System Service** opens a login window.




**Figure 7.9. Login window to the Group systems**

Login takes place once per session. The **global user ID** and the **password** for access to the Group systems are required for login.

**Apply:** The login data is sent to the Group systems.

**Cancel:** The login data is discarded. Authorised dealers may repeat login at all times.

This button is available in all views of **Offboard Diagnostic Information System Service** that obtain data from Group systems. It can be used to repeat login at all times.

**Note:**

**Offboard Diagnostic Information System Service** only provides the option of diagnosis and flashing for the **licensed brands**.

Which vehicle models of this brand are available depends on the type of dealer of a brand in the licence. All vehicle models are available to a licensed **authorised dealer**, dealer type = H.

Only EU vehicles are available to a licensed **unaffiliated market participant**, dealer type = U, of a brand.

It is possible to check the contents of the licence in the administration area:

See also "Administration/General/Licence info"

An **unaffiliated market participant must** log on to the Group systems online at the start of a diagnostic or flash session to enable diagnostic or flash start-up.

If login is cancelled, **Offboard Diagnostic Information System Service** returns to the start screen.

After login, **Offboard Diagnostic Information System Service** displays the remaining duration of validity of the diagnostic flat rate in days and hours in the **Information area** of the user interface under **Time remaining**.

In addition, the **orders** and **vehicle history** are **not** available to the **unaffiliated market participant**.

**Reference:**

See also chapter "Login to Group systems"

# 7.4. Selecting orders

After login to the Group systems, an order is selected for the flash session or created manually.

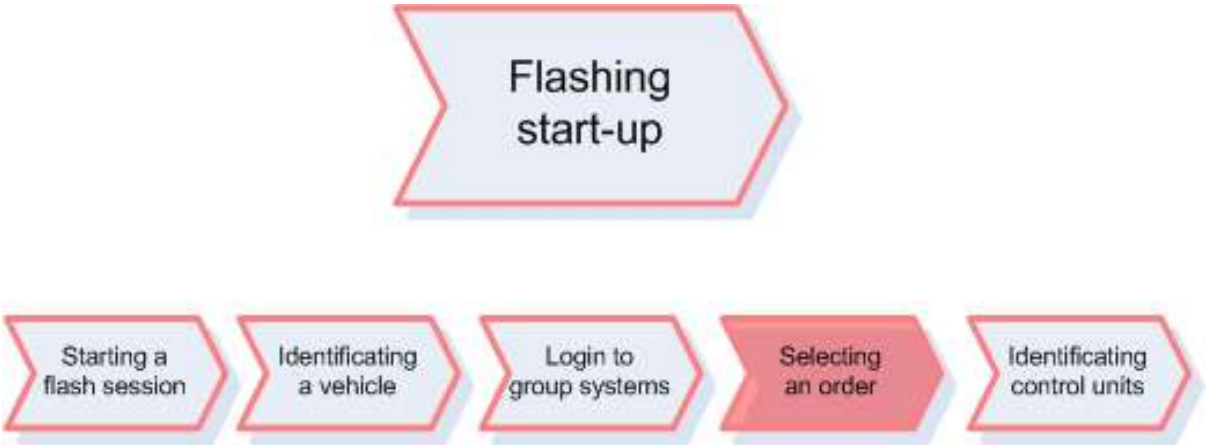



**Figure 7.10. Select order section**

If login is successful, **Offboard Diagnostic Information System Service** selects the order data for the current vehicle from **ElsaPro**.

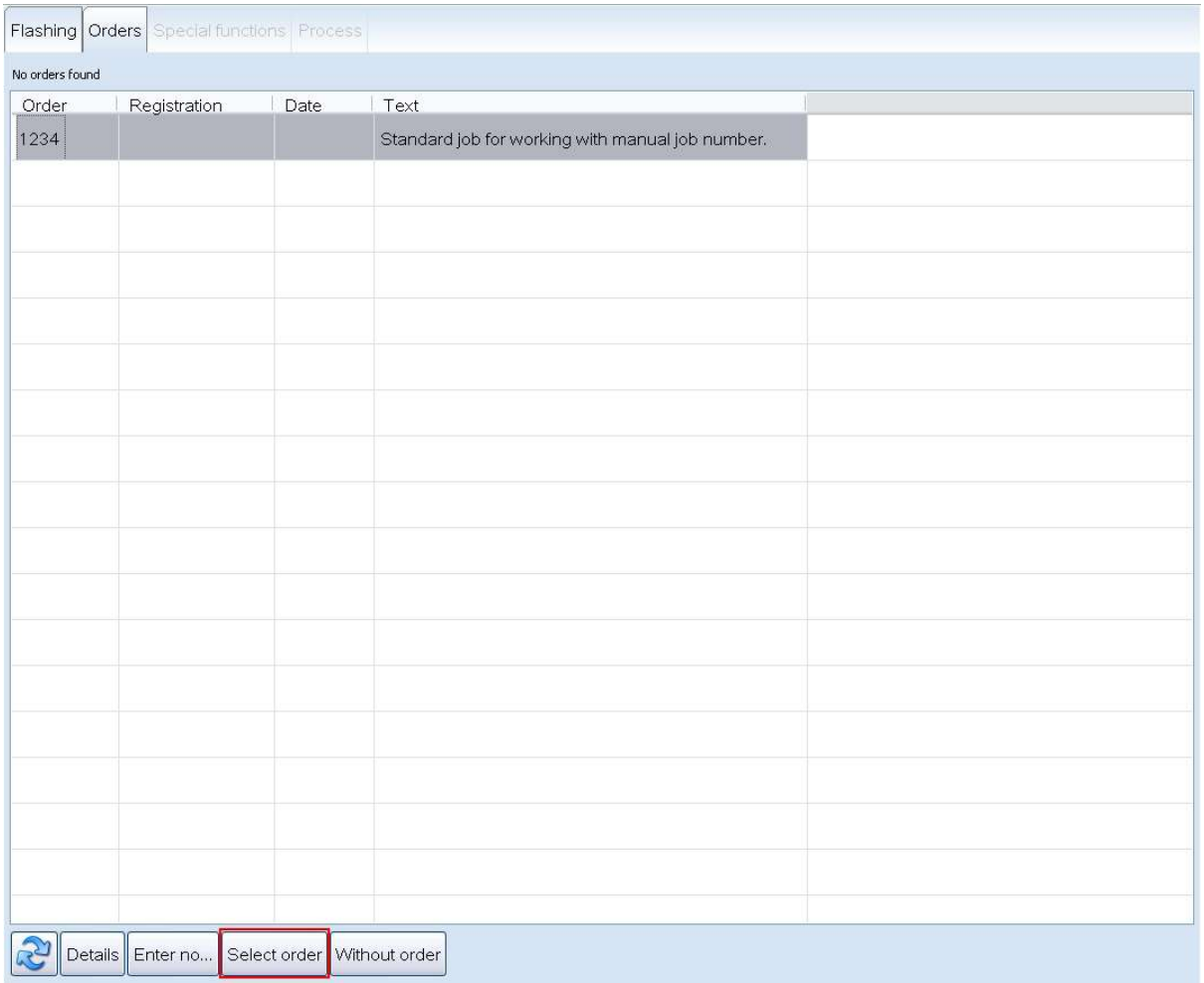



**Figure 7.11. Selecting an order for flashing**

**Offboard Diagnostic Information System Service** switches to the **Orders** tab and displays a list of all orders available for the vehicle.

The order number is displayed under **Order**, the current status in the SCP process under **SCP status**, and the vehicle's **licence plate number**, the **date** of the order and a descriptive **text** on the order are displayed in the order list.

The meaning of the **SCP status** numbers is listed in the following table.

| SCP status no. | Description |
|---|---|
| 1 | Scheduling appointment |
| 2 | Preparing for appointment |
| 3 | Vehicle reception |
| 4 | Work processes |
| 5 | Quality control |
| 6 | Vehicle return |
| 7 | Follow-up |
| 8 | Completed |

**Table 7.1. Meaning of the SCP status numbers**

If an order from **ElsaPro** is to be used, the desired order needs to be marked for this.

**Select order**: Click on this button to continue flash start-up with the order from **ElsaPro**.

However, it is also possible to create an order manually. For this, a **standard order for working with manual order number** is marked in the list.

**Enter no...** : Click on this button to open a window for entering the manual order number required here.

**Select order:** Flash start-up is continued with the manual order.

**Without order:** If work is to be performed without an order, flash start-up is continued if you click on this button.

⇨ **Reference:**

See also "Selecting an order" chapter.

The selection of the order is thus completed.

# 7.5. Identifying control units

After selecting the order, identification of the control units is started.

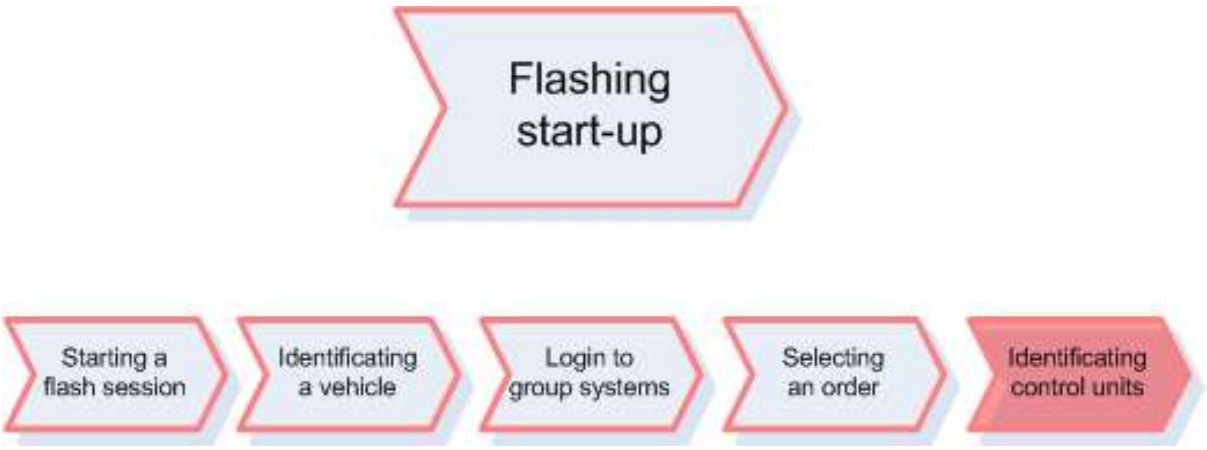



**Figure 7.12. Identify control units section**

**Offboard Diagnostic Information System Service** displays a progress dialogue for identifying control units.




**Figure 7.13. Control unit identification**

**Cancel flash start-up:** Flash start-up is cancelled.

Once control unit identification is completed, **Offboard Diagnostic Information System Service** opens the **Special functions** tab and displays the flash programs available for the identified vehicle in a list.

# 7.6. Using flash programs

After identifying the control units, programs for flashing can be executed.

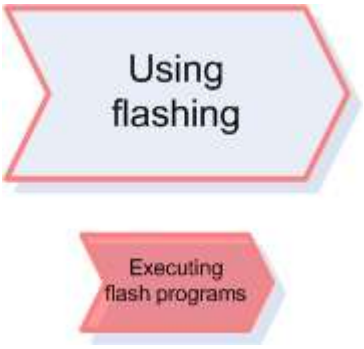



**Figure 7.14. Execute flash programs section**

**Offboard Diagnostic Information System Service** lists the available flash programs on the Special functions tab.

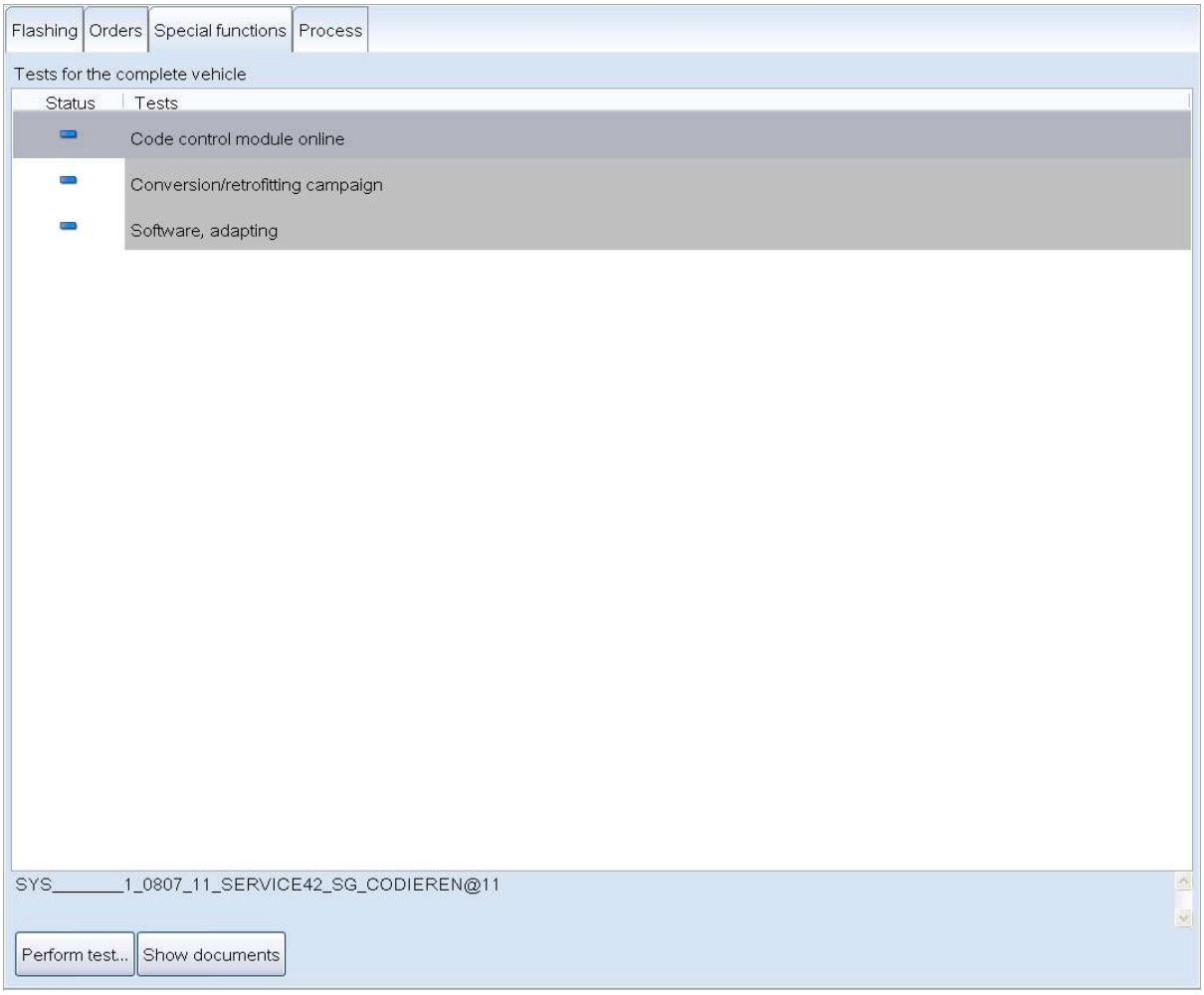



**Figure 7.15. Available flash programs**

The desired flash program is marked by clicking on it.

**Perform test...**: The selected flash program is started. For this, **Offboard Diagnostic Information System Service** switches to the **Process** tab.

**Show documents**: The button can be used to display corresponding documents, if available. For this, **Offboard Diagnostic Information System Service** switches in **Info** mode to the **Documents** tab.

Flash programs are executed in the same way as GFF diagnostic programs.

⇨ **Reference:**

See also chapter "Using GFF"

Flash sessions can be saved, re-opened and continued just like diagnostic sessions. The application automatically detects whether a diagnostic or flash session is to be saved or resumed.

⇨ **Reference:**

For more details on saving flash sessions, see the "Data" chapter.

# 7.7. Ending a flash session

If the desired flash programs have been completed, the flash session can be ended.

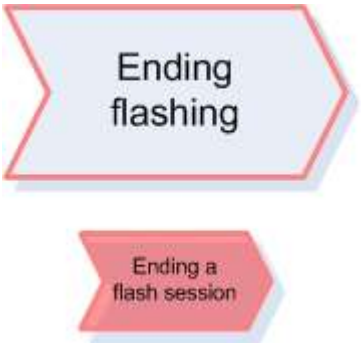



**Figure 7.16. End flashing section**

To end the flash session, you need to switch to the **Flash** tab.

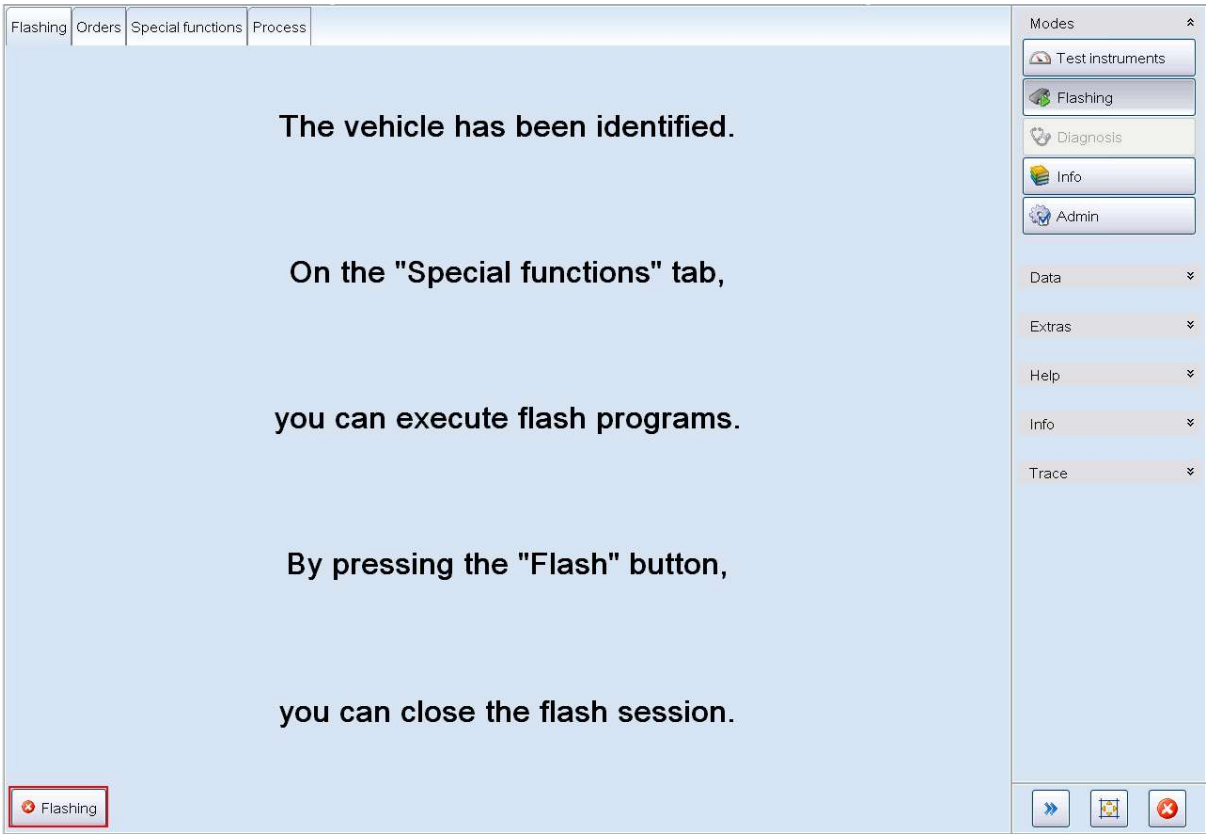



**Figure 7.17. Ending a flash session**



If you click on this button, exiting the flash session is started and this must be confirmed in a query that follows.

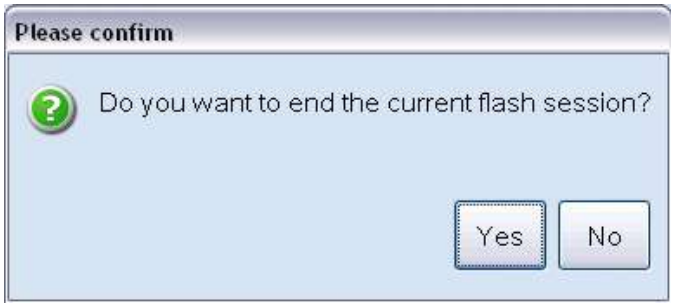



**Figure 7.18. Ending a flash session**

**Yes:** The flash session is ended.

**No:** The flash session is not ended.

Like for exiting guided fault finding, end module programs may be applied, depending on the vehicle. It is also possible to send feedback on the flash session. This feedback can also be skipped.

Offboard Diagnostic Information System Service then switches back to the start screen in **Flash** mode.

**⇨ Reference:**

For more details on exiting guided fault finding, see the "Ending diagnosis" chapter.

# Chapter 8. Info mode

**Info** mode combines all functions required for information. Most of this information is provided by the Volkswagen Group systems, which is why an active connection with valid login is particularly important here.



Click on this button to switch to **Info** mode. It is possible to do this from all other modes **provided** diagnostic start-up or flash start-up has taken place. Subsequent login to the Group systems is possible.

---

**Note:**

The contents of the following tabs are provided via Group system services. A single login to the Group systems for each diagnostic session and the online connection to the network are required for this.

You can use the  and  buttons to scroll backwards and forwards if the contents are spread over several pages.

The  button can be used to reload content or by the authorised dealer to repeat login. If content is reloaded, the corresponding start page of the window is loaded.

---




**Figure 8.1. Tabs in Info mode**

These tabs are available in **Info** mode:

- "Documents"
- "Actions"
- "History"
- "Circuit diagrams"
- "Manuals"
- "Vehicle"
- "PR No".

Every tab can be opened by clicking on it.

# 8.1. Documents

**Offboard Diagnostic Information System Service** provides a number of documents. These documents come from the knowledge base in the diagnostic database and apply to the diagnosed vehicle with its equipment variants.

Documents can also be opened in **Diagnostic** or **Flash** mode. For this, **Offboard Diagnostic Information System Service** automatically switches from diagnostic or flash mode to **Info** mode.

**Reference:**

See also chapter "Using GFF"

**Note**:

The document tree can only be displayed on the **Documents** tab after diagnostic or flash start-up, since the documents are only compiled for diagnosed vehicles.

After switching to **Info** mode, the view of the **Documents** is open. If you switch to **Info** mode again, the tab last activated is displayed.

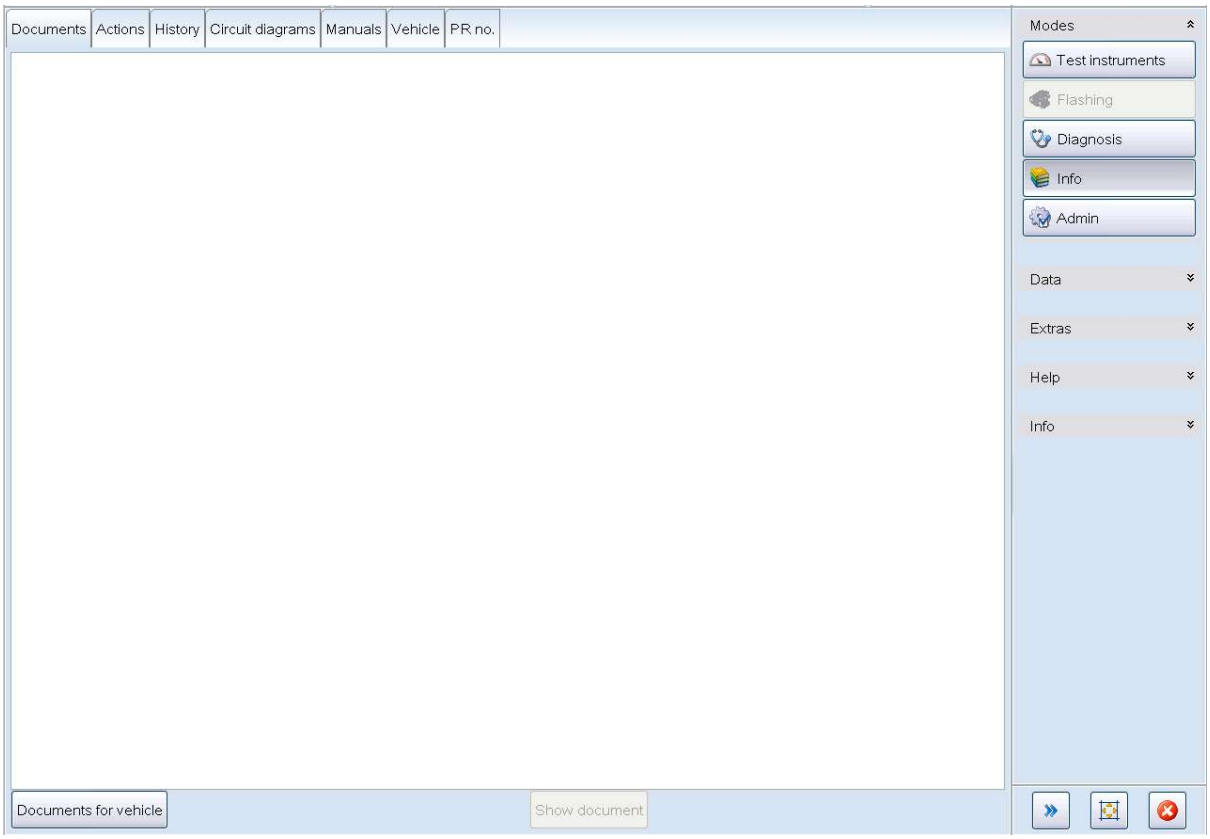



**Figure 8.2. Info mode start-up view**

**Vehicle documents**: If you click on this button, all documents available for the currently identified vehicle are displayed in a tree structure on the **Documents** tab.

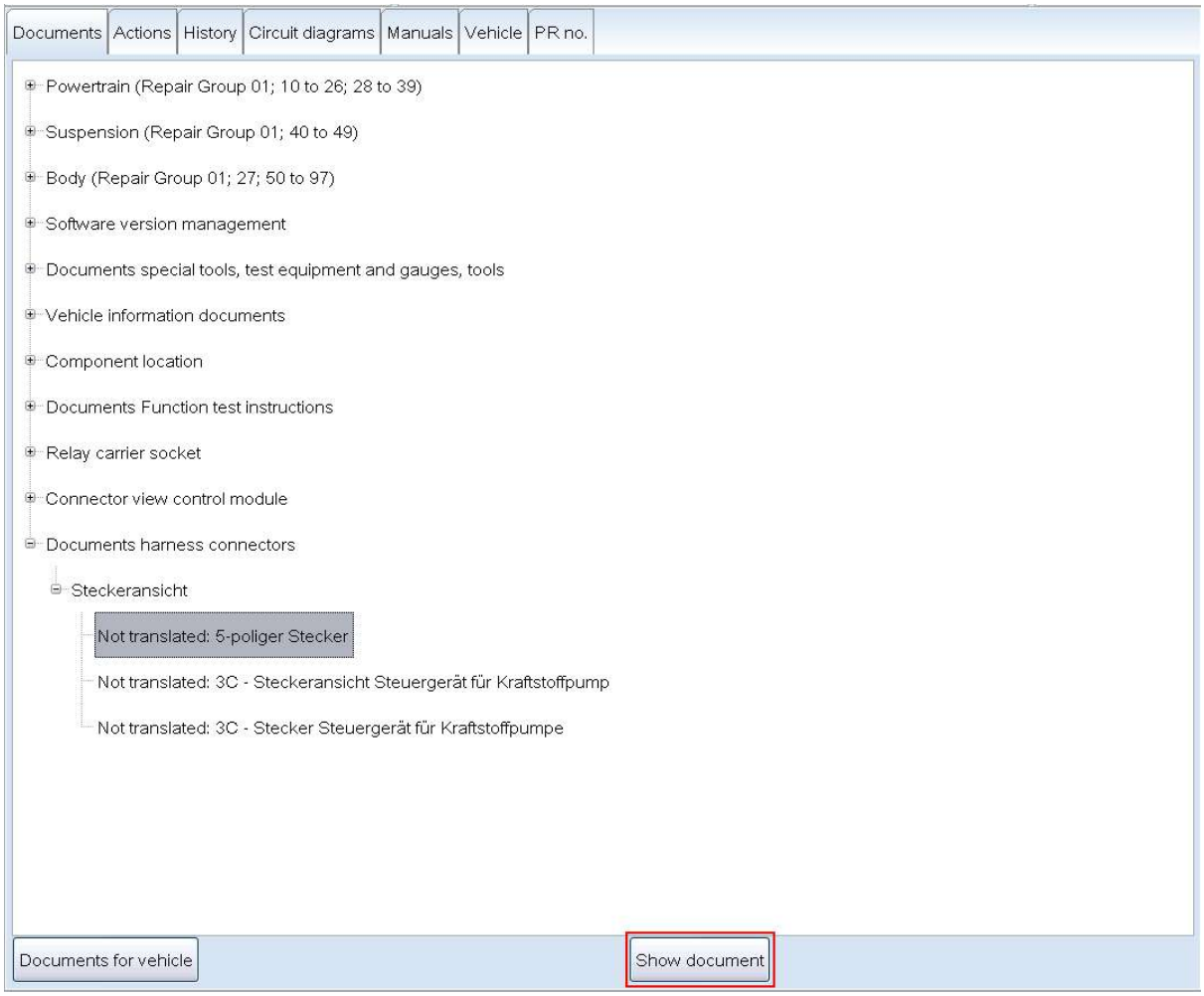



**Figure 8.3. Selecting a document to be displayed**

Individual branches can be opened in the tree structure by clicking on the **plus sign [+]** or closed by clicking on the **minus sign [-]**.

After marking one of the documents listed in the tree structure using the mouse, the button for displaying the document is enabled.

**Display document:** The marked document is opened.

The document can also be opened directly in the document tree by double-clicking on it.

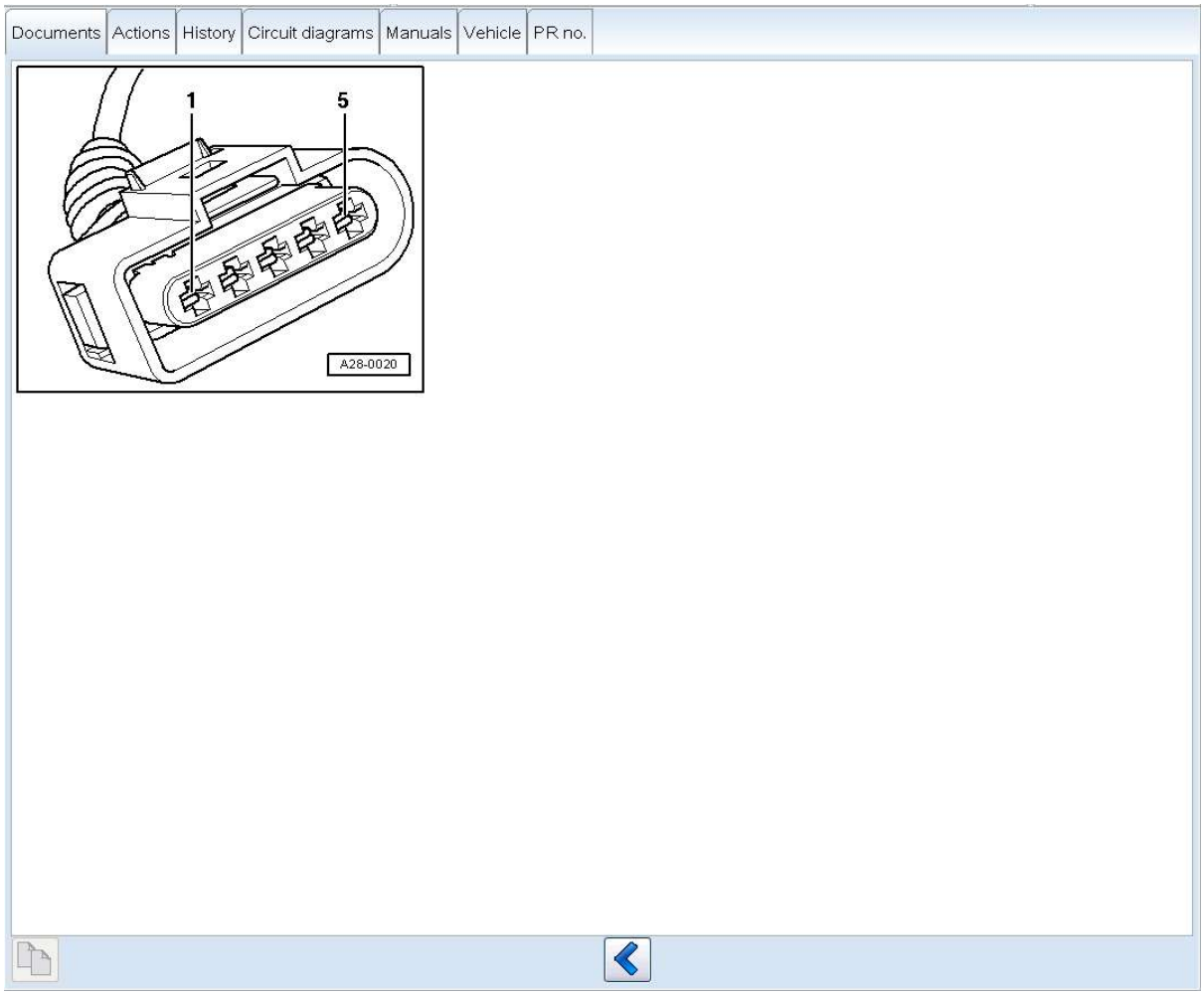



**Figure 8.4. View of a document**

 To return to the document structure, click on this button.

There are documents with text only or images only or combined text-image documents. The combined text-image documents are displayed next to each other.

Below are **two examples of typical documents** for a vehicle.

Example 1 of a pure text document:

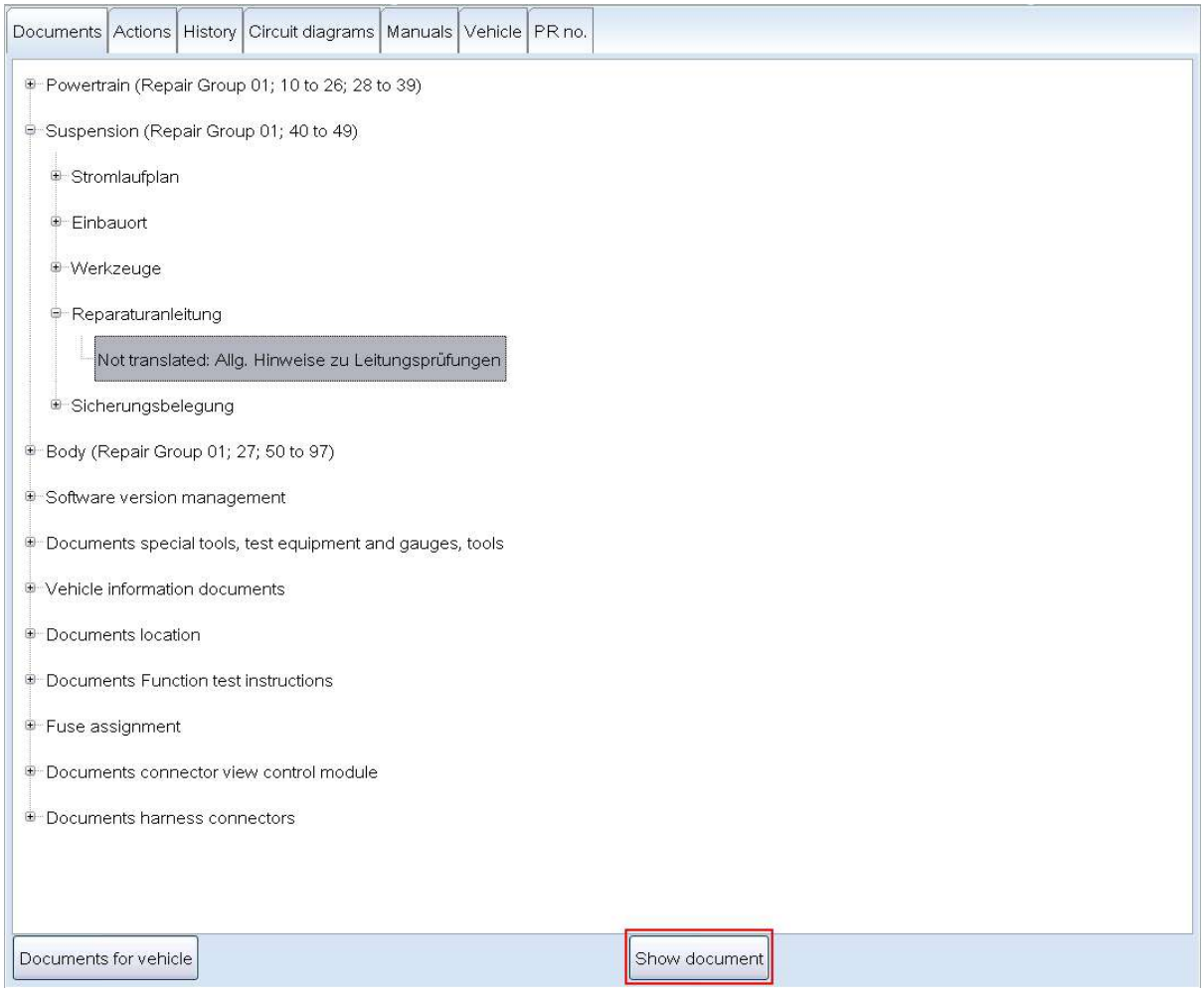



**Figure 8.5. Example 1, document tree**

Selection of: *Chassis - Repair instructions - Gen. notes on line tests*

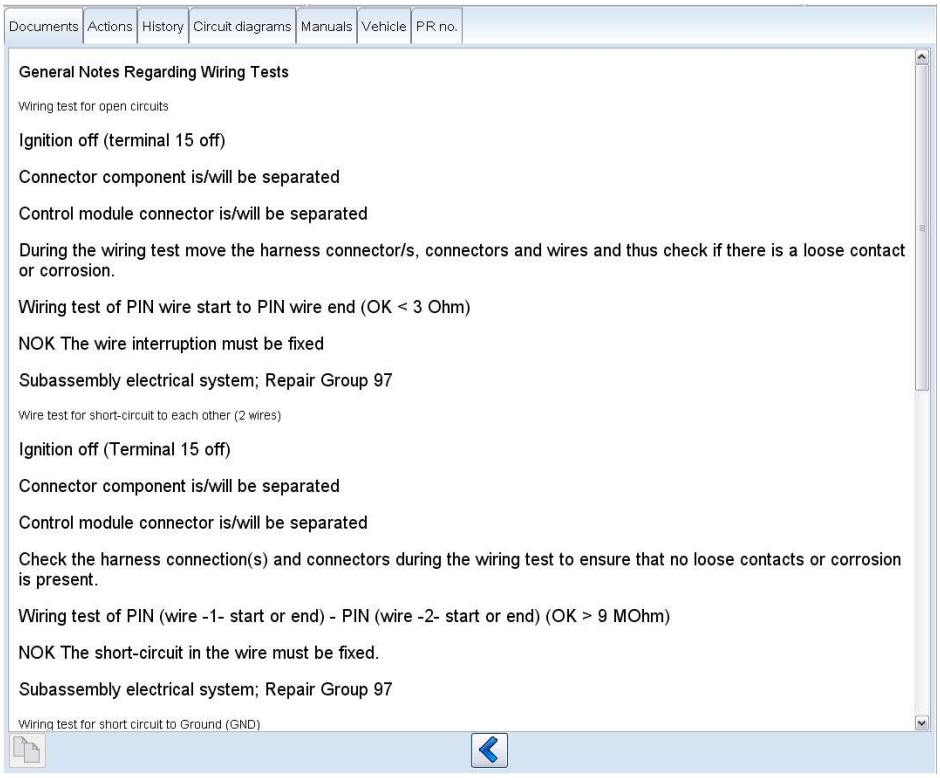

Documents
Actions
History
Circuit diagrams
Manuals
Vehicle
PR no.
General Notes Regarding Wiring Tests
Wiring test for open circuits
Ignition off (terminal 15 off)
Connector component is/will be separated
Control module connector is/will be separated
During the wiring test move the harness connector/s, connectors and wires and thus check if there is a loose contact or corrosion.
Wiring test of PIN wire start to PIN wire end (OK < 3 Ohm)
NOK The wire interruption must be fixed
Subassembly electrical system; Repair Group 97
Wire test for short-circuit to each other (2 wires)
Ignition off (Terminal 15 off)
Connector component is/will be separated
Control module connector is/will be separated
Check the harness connection(s) and connectors during the wiring test to ensure that no loose contacts or corrosion is present.
Wiring test of PIN (wire -1- start or end) - PIN (wire -2- start or end) (OK > 9 MOhm)
NOK The short-circuit in the wire must be fixed.
Subassembly electrical system; Repair Group 97
Wiring test for short circuit to Ground (GND)

**Figure 8.6. Example 1, document view**

Example 2 of a combined text-image document:




**Figure 8.7. Example 2, document tree**

Selection of: *Body - Target values - Headlight adjustment*

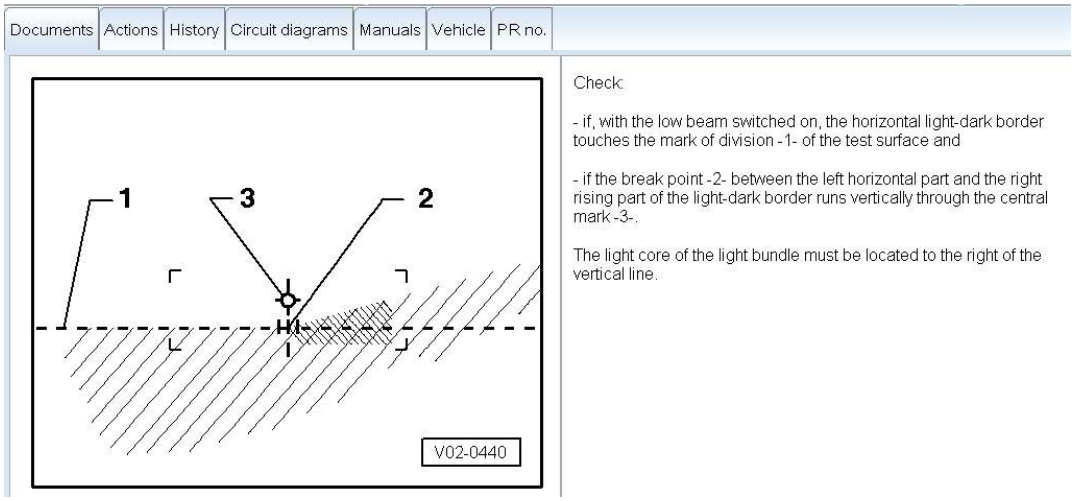

Documents
Actions
History
Circuit diagrams
Manuals
Vehicle
PR no.
1
3
2
V02-0440
Check:
- if, with the low beam switched on, the horizontal light-dark border touches the mark of division -1- of the test surface and
- if the break point -2- between the left horizontal part and the right rising part of the light-dark border runs vertically through the central mark -3-.
The light core of the light bundle must be located to the right of the vertical line.

**Figure 8.8. Example 2, document view**

**Image documents** may have what are referred to as **hot spot**s. Hot spots are image areas with a red border.

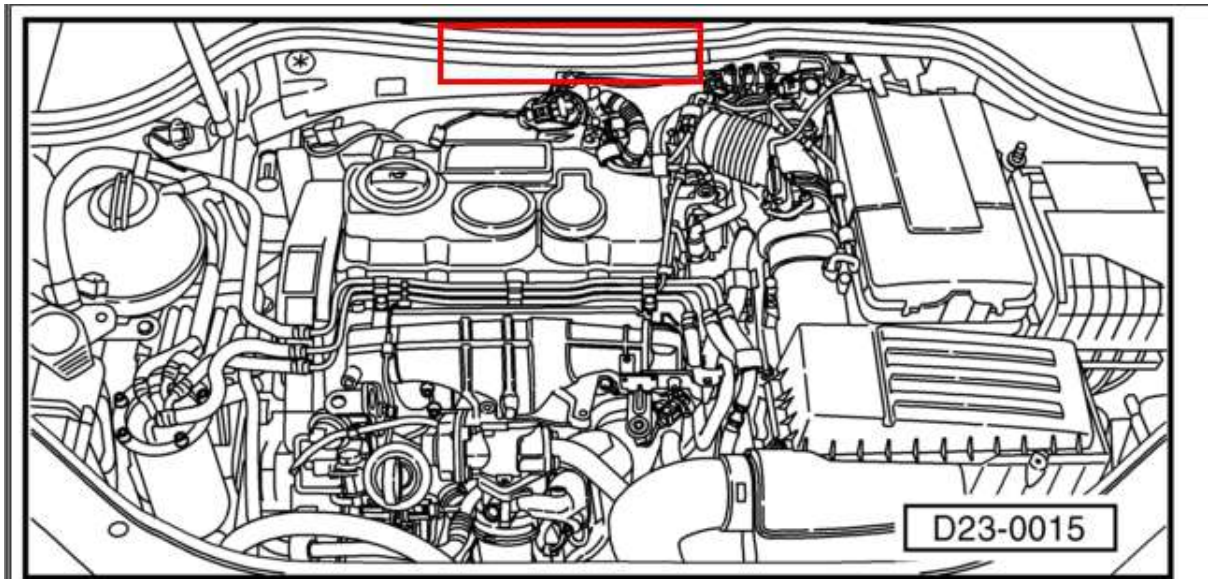



**Figure 8.9. Document with hot spot**

If you click on a hot spot, another image is opened with a more detailed view of the area within the red border.

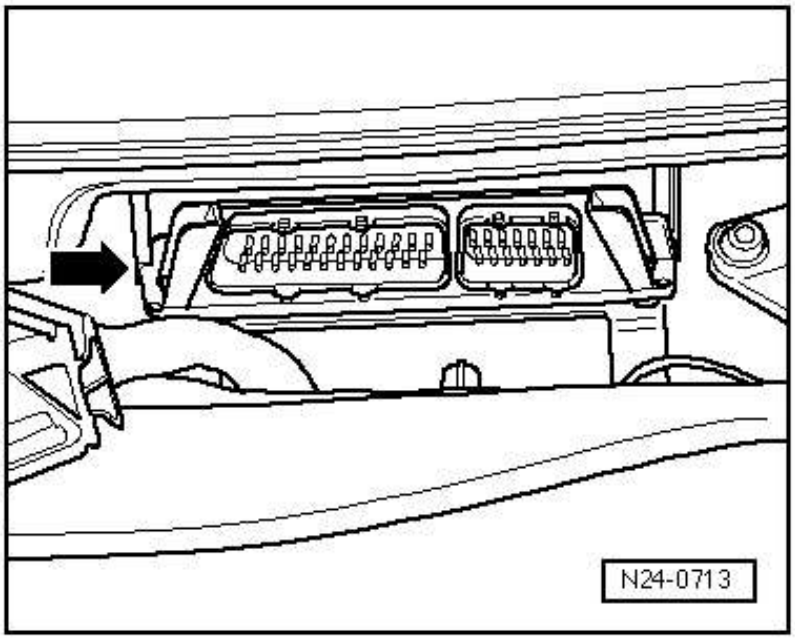



**Figure 8.10. Open hot spot**

Documents can be printed as the current view.

⇨ Reference:

See also "Current view"

# 8.1.1. Documents in the GFF

The test programs for guided fault finding include numerous different documents. These documents are available in **Diagnostic** mode either in the test plan view or in the test programs themselves.

⇨ Reference:

See also chapter "Using GFF"

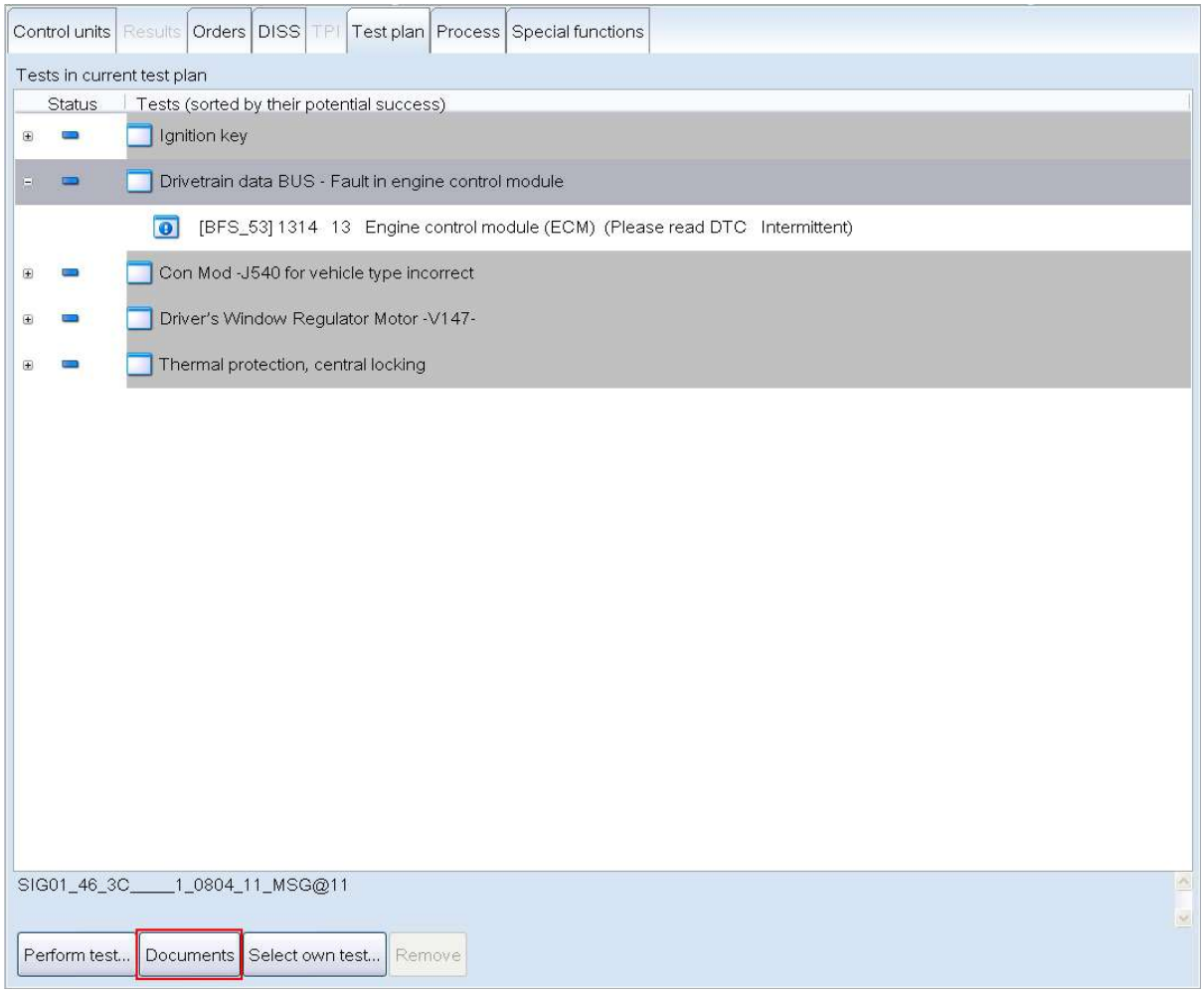
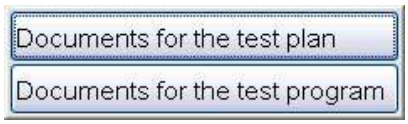



**Figure 8.11. Displaying the documents for a test plan**

**Documents**: If you click on this button on the **Test plan** tab in **Diagnostic** mode, a context menu appears from which you can select whether documents are to be displayed for the test plan or for a test program:




**Documents for the test plan:** All documents for diagnostic objects taken into account in the test plan are provided in a tree structure.

**Documents for the test program:** All documents for diagnostic objects taken into account in the test program selected are provided in a tree structure.

After selecting the document type, Offboard Diagnostic Information System Service switches from the **Test plan** tab in **Diagnostic** mode to the **Documents** tab in **Info** mode.

Documents for the test programs describe the following issues. Which documents are available depends on the test program.

- Block circuit diagram
- File with CD contents
- Instructions for settings
- Fitting location
- Function description
- Function test instructions
- Test equipment
- Pin assignment
- Fuse assignment
- Connector view
- Tools
- Circuit diagram
- Repair instructions

---

**Note**:

Additional documents are available on the **Manuals** and **Circuit diagrams** tabs.

Reference:

See also chapters: "Manuals tab" and "Circuit diagrams tab"

---

To return to the test plan, switch to **Diagnostic** mode.



# 8.2. Actions tab

A click on the **Actions** tab displays **field actions** already performed for the vehicle, such as recall campaigns.

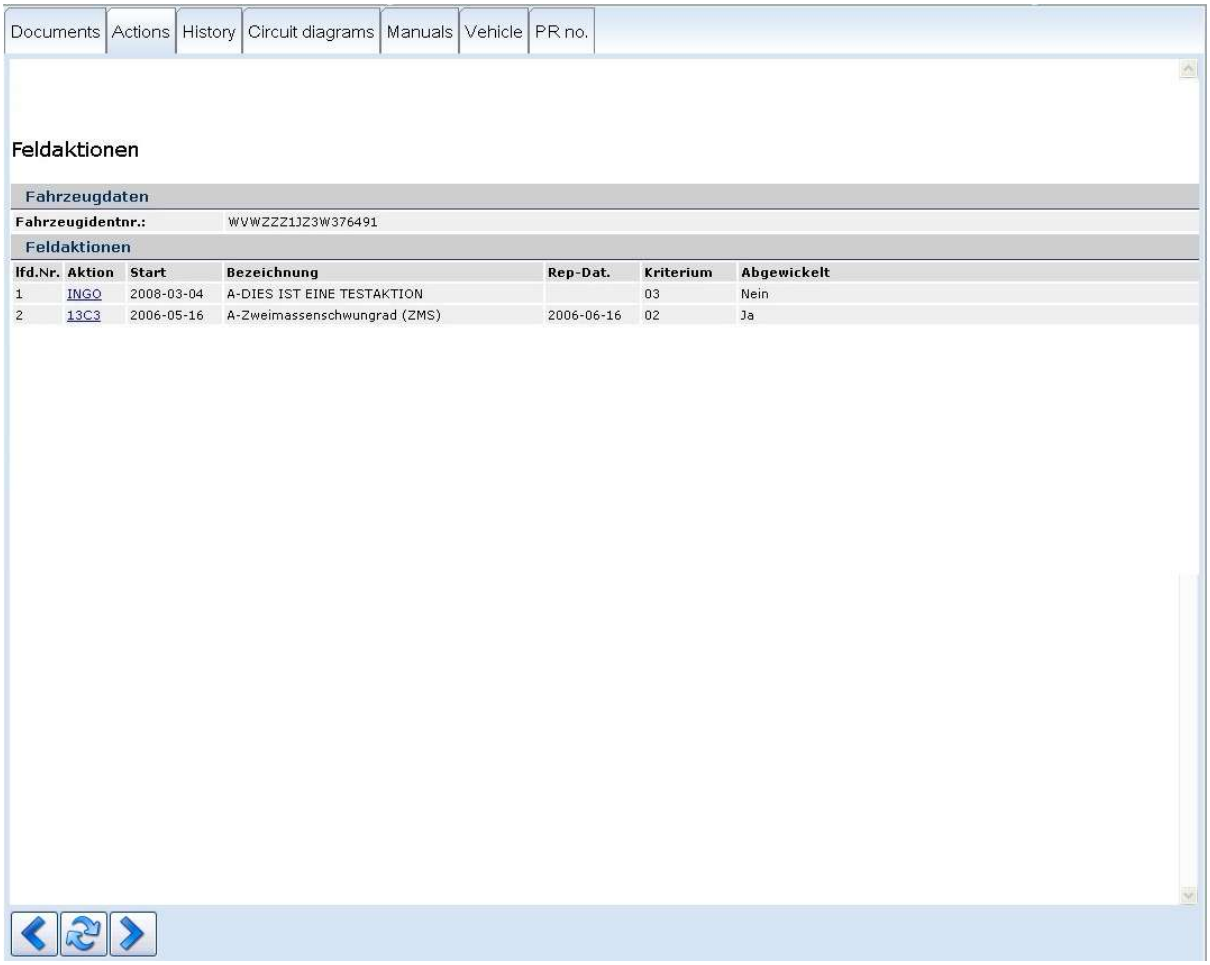



**Figure 8.12. View of the Actions tab**

 Scroll forward a page.

 Scroll back a page.

 You can use this button to reload content. Authorised dealers can log on to the Group systems here again.

# 8.3. History tab

The **History** tab shows the vehicle's **repair history** from **ElsaPro**. The manual for **ElsaPro** provides a more detailed list of the contents.

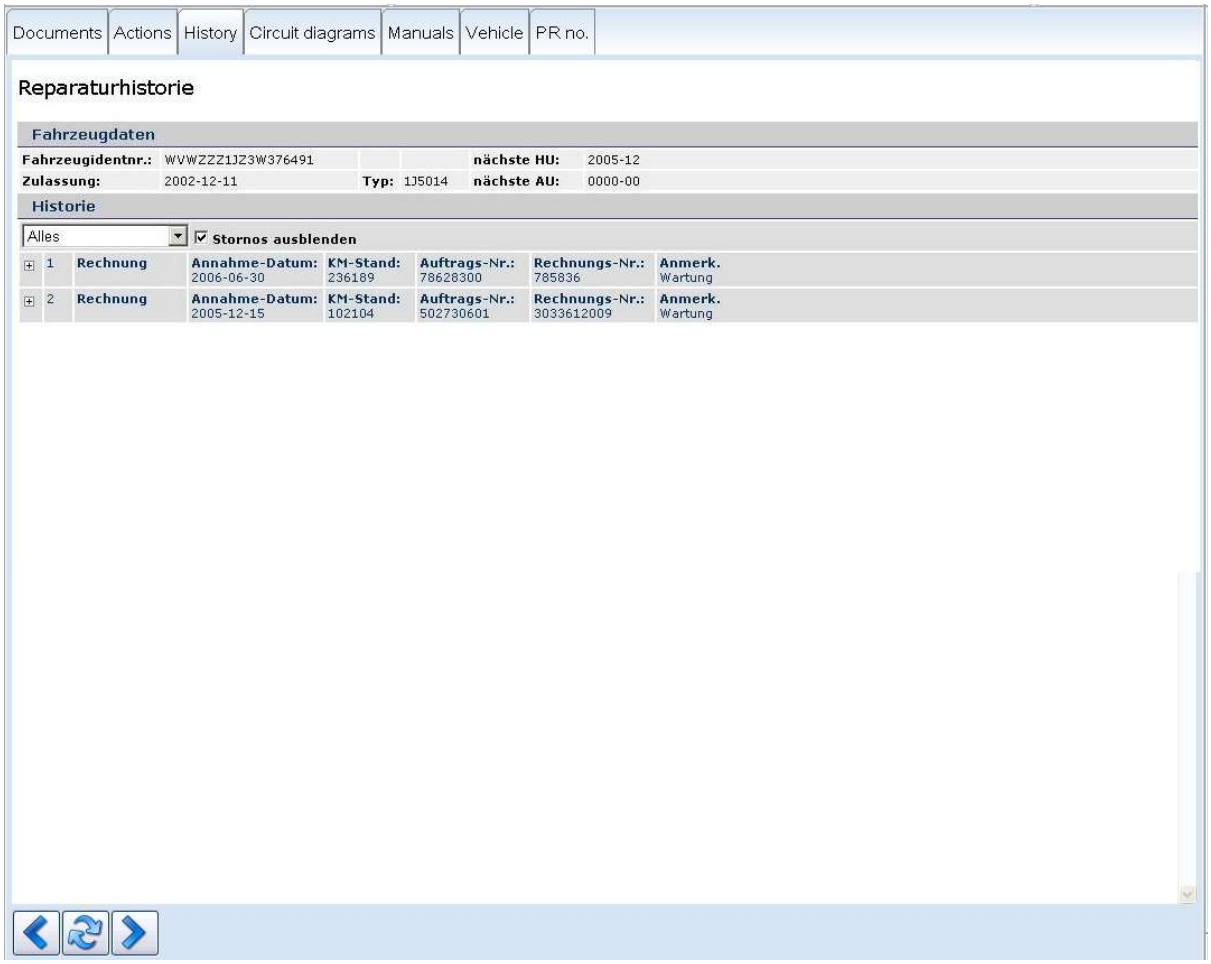



**Figure 8.13. History tab view**

 Scroll forward a page.

 Scroll back a page.

 You can use this button to reload content. Authorised dealers can log on to the Group systems here again.

# 8.4. Manuals tab

Click on the **Manuals** tab to access workshop manuals.

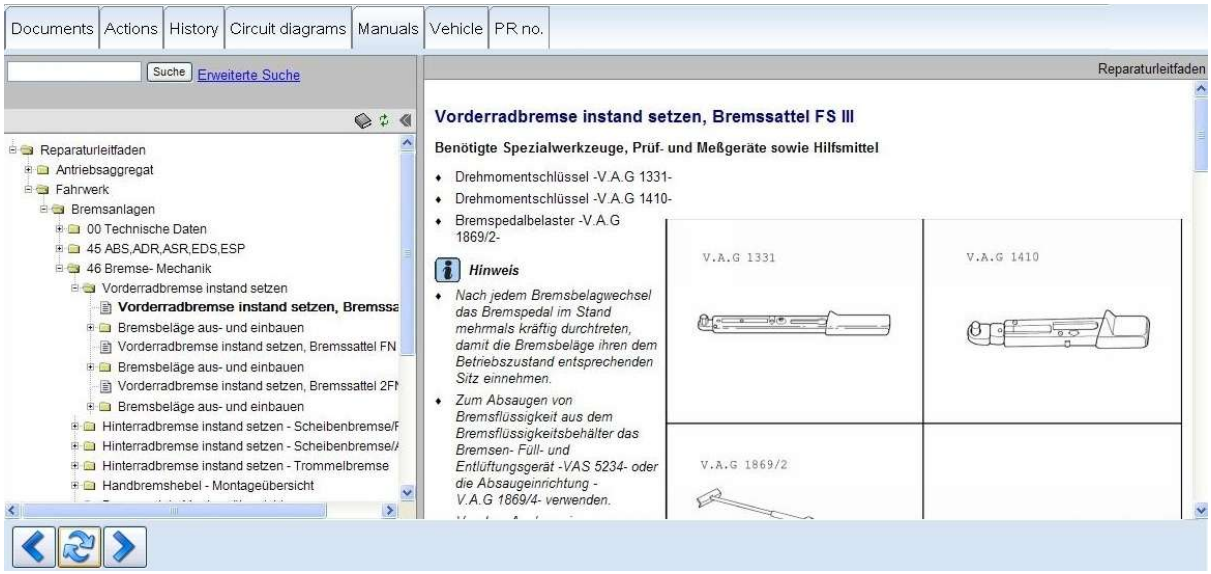



**Figure 8.14. Manuals tab view**

The documents are listed by their **VIN** in a tree structure on the left side of the window. Click on the required manual to display it in the window on the right.

 Scroll forward a page.

 Scroll back a page.

 You can use this button to reload content. Authorised dealers can log on to the Group systems here again.

# 8.5. Circuit diagrams tab

You can use the **Circuit diagrams** tab to access the circuit diagrams required for the vehicle.

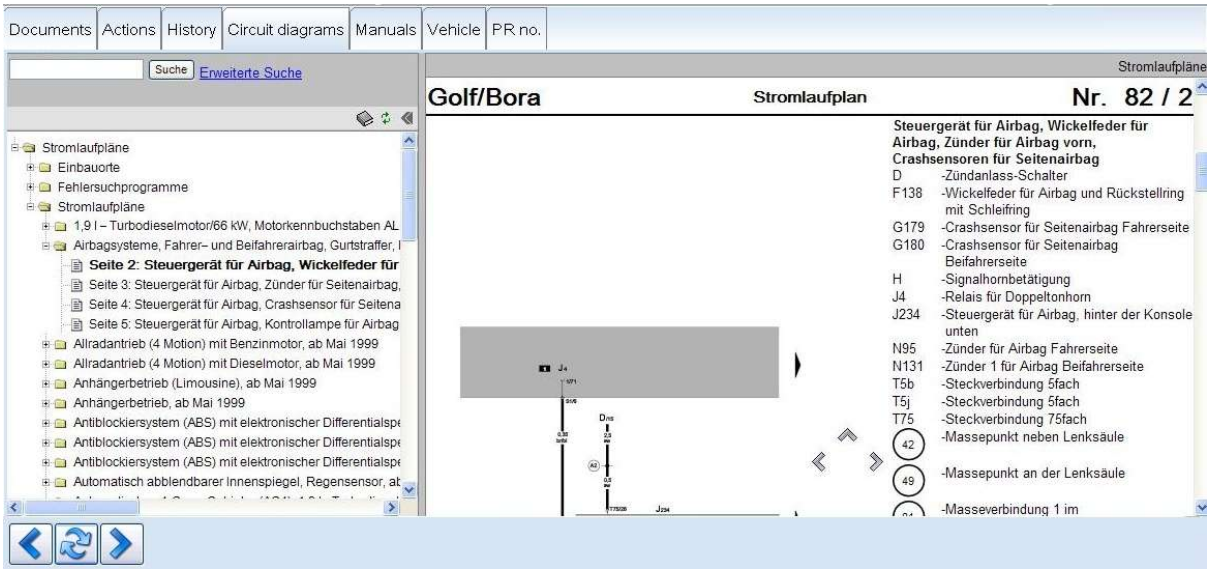

Documents
Actions
History
Circuit diagrams
Manuals
Vehicle
PR no.
Suche
Erweiterte Suche
Stromlaufpläne
Einbauorte
Fehlersuchprogramme
Stromlaufpläne
1,9 l – Turbodieselmotor/66 kW, Motorkennbuchstaben AL
Airbagsysteme, Fahrer– und Beifahrerairbag, Gurtstraffer,
Seite 2: Steuergerät für Airbag, Wickelfeder für
Seite 3: Steuergerät für Airbag, Zünder für Seitenairbag,
Seite 4: Steuergerät für Airbag, Crashsensor für Seitena
Seite 5: Steuergerät für Airbag, Kontrollampe für Airbag
Allradantrieb (4 Motion) mit Benzinmotor, ab Mai 1999
Allradantrieb (4 Motion) mit Dieselmotor, ab Mai 1999
Anhängerbetrieb (Limousine), ab Mai 1999
Anhängerbetrieb, ab Mai 1999
Antiblockiersystem (ABS) mit elektronischer Differentialspe
Antiblockiersystem (ABS) mit elektronischer Differentialspe
Antiblockiersystem (ABS) mit elektronischer Differentialspe
Automatisch abblendbarer Innenspiegel, Regensensor, ab
Stromlaufpläne
Golf/Bora
Stromlaufplan
Nr. 82 / 2
Steuergerät für Airbag, Wickelfeder für Airbag, Zünder für Airbag vorn, Crashsensoren für Seitenairbag
D -Zündanlass-Schalter
F138 -Wickelfeder für Airbag und Rückstellring mit Schleifring
G179 -Crashsensor für Seitenairbag Fahrerseite
G180 -Crashsensor für Seitenairbag Beifahrerseite
H -Signalhornbetätigung
J4 -Relais für Doppeltonhorn
J234 -Steuergerät für Airbag, hinter der Konsole unten
N95 -Zünder für Airbag Fahrerseite
N131 -Zünder 1 für Airbag Beifahrerseite
T5b -Steckverbindung 5fach
T5j -Steckverbindung 5fach
T75 -Steckverbindung 75fach
42 -Massepunkt neben Lenksäule
49 -Massepunkt an der Lenksäule
-Masseverbindung 1 im

**Figure 8.15. Circuit diagrams view**

The diagrams are displayed in a tree structure in the left-hand window. Click on the required circuit diagram to display it in the window on the right.

Scroll forward a page.

Scroll back a page.

You can use this button to reload content. Authorised dealers can log on to the Group systems here again.

# 8.6. Vehicle tab

The **Vehicle** tab displays all relevant vehicle details. Prerequisite is that **diagnostic start-up** has been performed.

The individual details displayed are as follows:

Vehicle identification number

Manufacturer

Type

Model year

Production site

Serial number

Engine code

Gearbox code

Sales number

Sales description

Production date

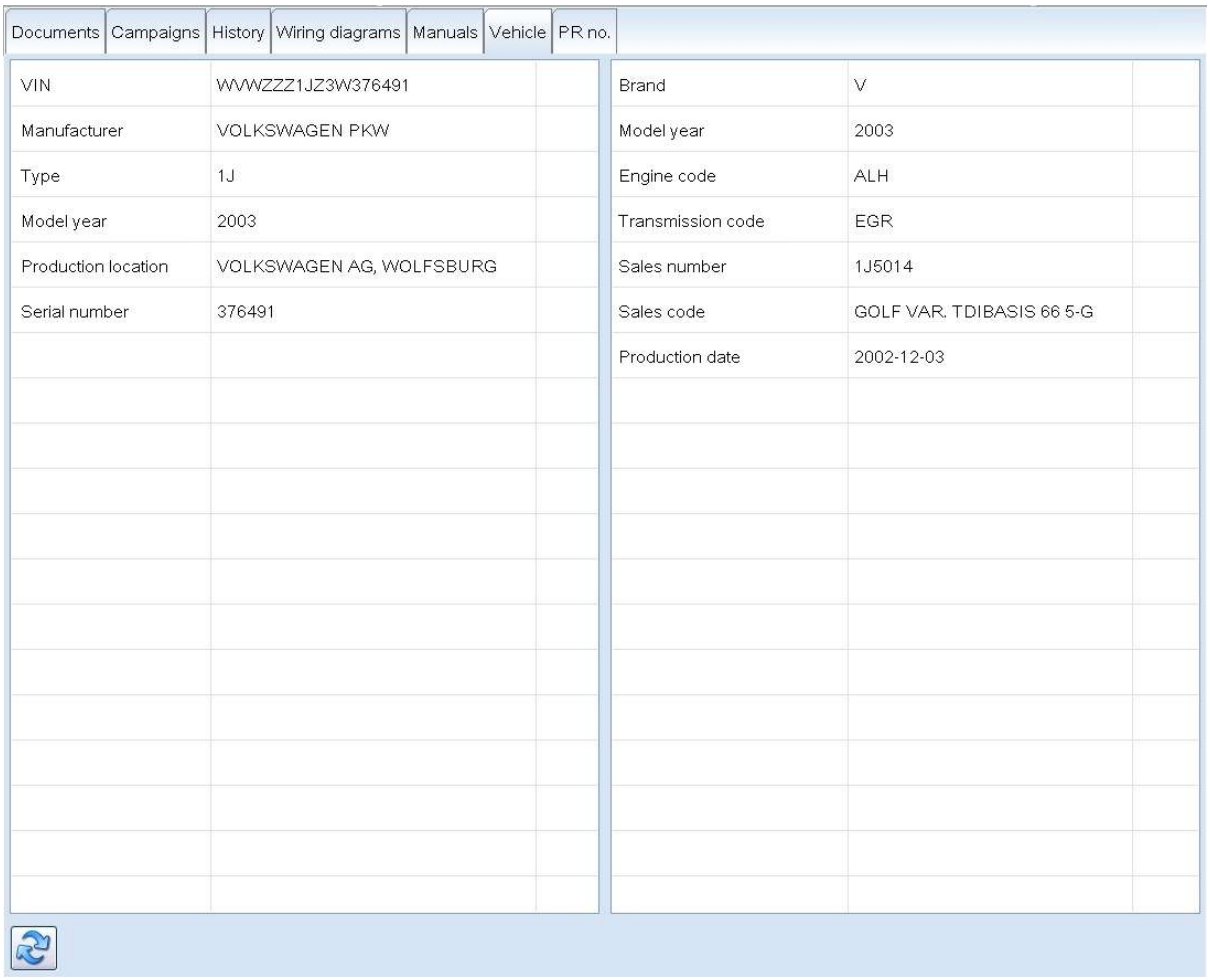



**Figure 8.16. Vehicle view**

You can use this button to reload content. Authorised dealers can log on to the Group systems here again.

# 8.7. PR no. tab

The table on the **PR No.** tab shows the equipment numbers for the selected vehicle. **Diagnostic start-up** must be performed first for this.

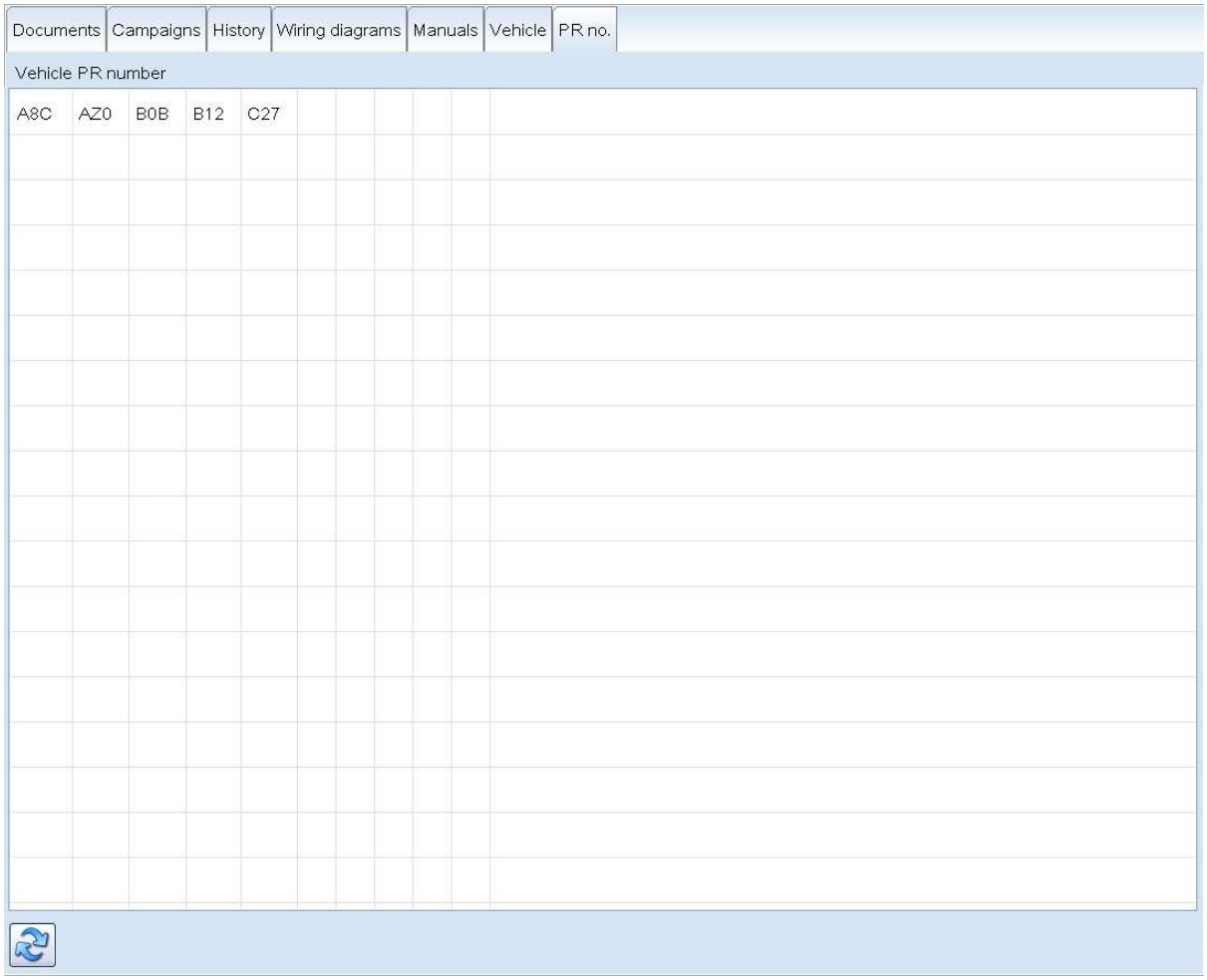



**Figure 8.17. PR no. view**

 You can use this button to reload content. Authorised dealers can log on to the Group systems here again.

# Chapter 9. Test instruments mode

## 9.1. Test instruments in general

To access **Test instruments mode**, click on the **Test instruments** button on the user interface of the start screen in the Modes area (right edge of the screen).




**Test instruments** mode allows the user to perform measurements independently without **guided fault finding** using test instruments that can be parametrised. Test results are displayed numerically or graphically on the screen.

**Reference:**

See also chapter: "Offboard Diagnostic Information System Service user interface"

**The multimeter user interface is automatically active after starting:**

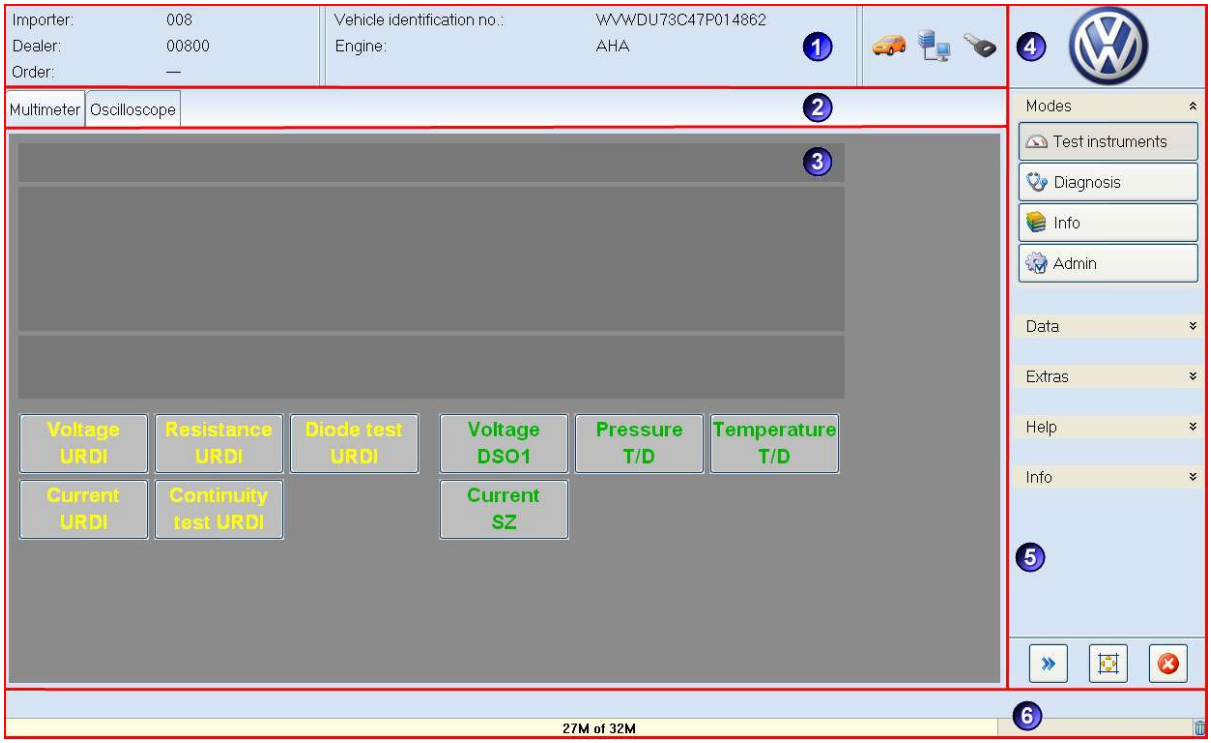



**Figure 9.1. Test instruments user interface - Multimeter**

The **user interface** in test instruments mode consists of the following six areas:

- **1 Information area:**
- **2 Tab bar:**

  The tabs on the tab bar can be used to activate the **Multimeter** or **Oscilloscope** client area.

**Reference:**

See also chapter **The Multimeter client area** and **The Oscilloscope client area**

- **Client area:**

  The structure of the client area changes depending on which function has been activated using the tabs. All specific test parameters for the selected measurement option are displayed in this client area.

  **Reference:**

  See also **Fig.: Structure of the Multimeter client area** and **Fig.: Structure of the Oscilloscope client area**

- **Modes:**

  By clicking on the buttons, you can switch to **Info**, **Diagnosis** and **Admin** mode at all times. The most recently set measurement options and functions remain intact when switching modes.

  **Reference:**

  See also **Test instrument administration**

- **Standard functions:**

---

**Note:**

To print the current screen view, click on the **Data** button in the Standard functions area.

To hide the **Information area** and the **modes** and to zoom in on the other areas, click on the **Full screen** button.

---

- **Status line:**

  Status messages from the system are displayed in the status line.

The default settings for test instruments mode (such as units of measurement) can only be set in **Admin mode**.

**Reference:**

See also chapter **Test instrument administration**

# 9.2. The Multimeter client area

Click on the Multimeter tab on the tab bar to activate the corresponding client area. Use the **Multimeter** function to make user-defined settings for the measuring leads connected via the device sockets and to use these instruments. Measuring functions can be set, measurements can be carried out and test results can be read.

**If the Multimeter function is active, the following client area is visible:**

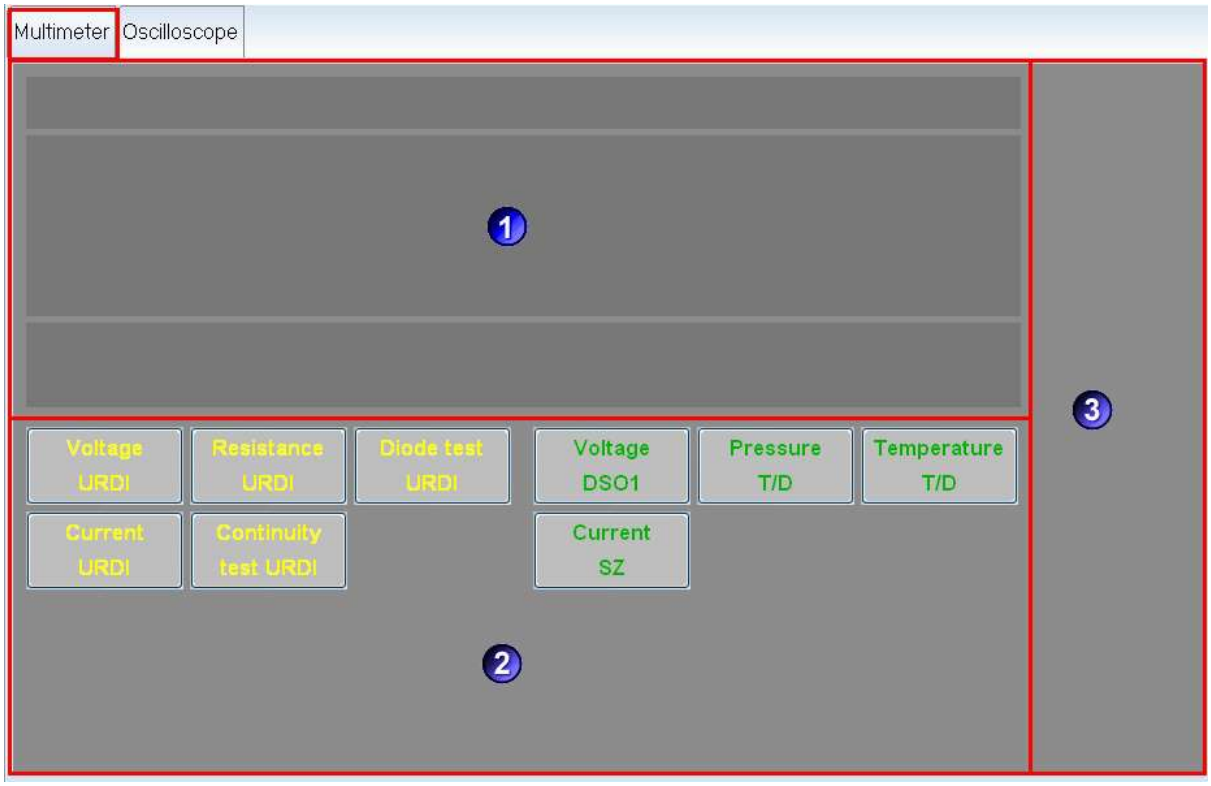



**Figure 9.2. Structure of the Multimeter client area**

The Multimeter **client area** consists of the following three areas:

**1 Display area:**

The bottom part of the display area is for the graphical display of measured values in the form of bar charts. Switching states and measured values for the selected measurement option are displayed in the centre. The top part serves to display important system messages, for example, a message stating that the test instruments are being calibrated.

**2 Operating area**

Use the various buttons in the operating area to start or end measuring functions and to set the required test parameters, such as **Coupling** and **Measuring range**.

**Reference:**

See also section **Setting the test parameters**

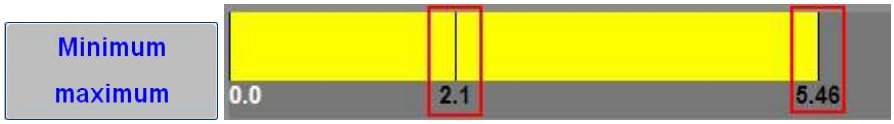
**3 Function area:**

Use the corresponding buttons in the function area to select relevant service functions for each measuring function or the selected test procedure (service functions not available are hidden from view). The following functions can be selected depending on the measuring function:

- **Freeze frame**: "Freezes" the current display. Cyclic repetition of the measurement pauses and the last measured value is displayed statically. To resume cyclic measurement, click on the button again. For the remote-controlled operation of the **Freeze frame** function, use the remote control button on the measuring probe of the U/R/D and DSO measuring lead (red measuring lead). .




- **Minimum/maximum** can be used to configure user-defined settings for the measuring leads connected via the device sockets. Measuring functions can be set, measurements can be carried out and test results can be read.: Indication of the limit values. The current minimum and maximum measured values (after activation of the function) are indicated in the bar graph by means of vertical markers. In addition, the limit values are displayed numerically below the markers. If the function is deactivated, the limit values measured so far are discarded.




- **Calibrate**: Manual start of the calibration of a measuring lead. Always calibrate manually when replacing a measuring lead or using a measuring lead in a different measurement position or in case of large fluctuations in temperature. With the measuring functions **Resistance URDI**(measuring range <= 100 ohm), **Current URDI** and **Continuity test URDI**, calibration is performed automatically when the function is started.




- **Diagnostic measured values**: Shows measured values and measured value blocks read out of a control unit in cycles. These must first be loaded in diagnostic mode and transferred for test instruments mode. The button is only visible if measured value blocks have already been loaded in diagnostic mode.




**Reference:**

See also chapter **Applying measured values from diagnostic mode**

---

**Note:**

To trigger the **Freeze frame** function by remote control, use the remote control button on the measuring probe of the URDI and DSO measuring lead.

---

**The operating area of the multimeter client area is divided into two function blocks:**




**Figure 9.3. Structure of the operating area of the multimeter client area**

**Function block 1:**

Function block 1 consists of all measuring functions and parameters of the URDI measuring system. The buttons and the corresponding indication of measured values are shown in yellow font. The following measuring functions are available:

- **Voltage URDI** - Measurement of AC and DC voltage

  ⇨ **Reference:**

  See also chapter **Voltage measurement URDI**

- **Current URDI** - Measuring direct and alternating current

  ⇨ **Reference:**

  See also chapter **Current measurement URDI**

- **Resistance URDI** - Measuring ohmic resistance

  ⇨ **Reference:**

  See also chapter **Resistance measurement URDI**

- **Diode test URDI** - Testing diode polarity and function

  ⇨ **Reference:**

  See also chapter **Diode test URDI**

- **Continuity test URDI** - Test to check whether there is a connection of low resistance (<= 2 ohm) between two points.

  ⇨ **Reference:**

  See also chapter **Continuity test URDI**

**Function block 2:**

All measuring functions and parameters of the current measurement are combined via connection DSO1 in function block 2, as well as various pressure sensors, a temperature sensor or current measurement via the clamp-on ammeter connection. The buttons and the corresponding display of measured values are shown in green font. The following measuring functions are available:

- **Voltage DSO1** - Measuring AC and DC voltage

  ⇨ **Reference:**

  See also chapter **Voltage measurement DSO1**

- **Current clamp-on ammeter** - Measuring direct and alternating current

  ⇨ **Reference:**

  See also chapter **Current measurement, clamp-on ammeter**

- **Pressure T/P** - Measuring the pressure

  ⇨ **Reference:**

  See also chapter **Pressure measurement T/P**

- **Temperature T/P** - Measuring the temperature

  **Reference:**

  See also chapter **Temperature measurement T/P**

---

**Note:**

The measuring functions **Resistance URDI** (measuring range <= 100Ohm), **Current URDI** and **Continuity test URDI** have an automatic calibration option that is executed when the program is started for the first time. In addition, whether automatic calibration of a measuring lead is necessary depends on the device. A system message may then ask you to carry out further operating steps.

In addition, the captions of the buttons in the operating area of the multimeter client area may deviate from the figure "Structure of the operating area of the multimeter client area". That depends on the device (e.g. "Pressure T/P-1" and "Temperature T/P-2" instead of "Pressure T/P" and "Temperature T/P).

---

**Note:**

To be able to the start the measuring functions from function blocks 1 and 2, the correct measuring lead must be connected to the device sockets. If this is not the case, an error message will appear.

**Setting the test parameters:**

If a measuring function has been successfully started in the operating area, the specific test parameter buttons (e.g. DC or AC measurement) will be added to the respective function block. If a test parameter is not available for the active measuring function, the corresponding button will be inactive (black) (e.g. if the **Resistance URDI** function is activated, the AC button is inactive).

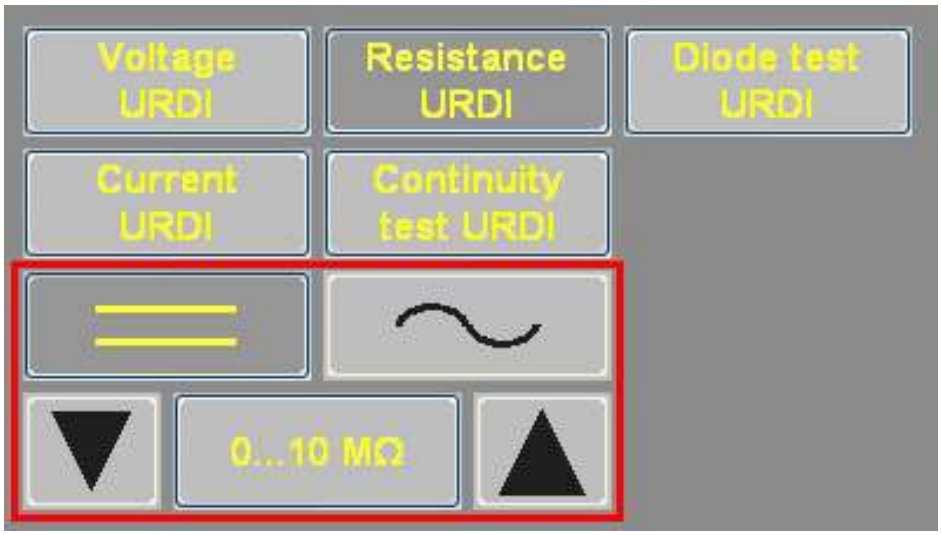
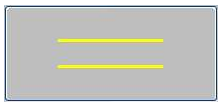



**Figure 9.4. Test parameter buttons in function block 1**

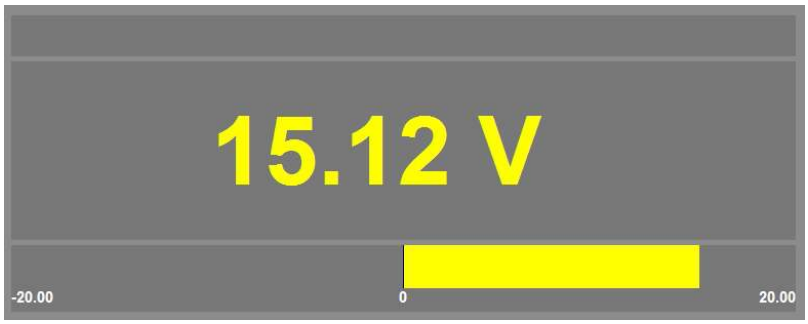
The characteristics of the test parameters are described below using the measurement option Voltage URDI in function block 1 as an example.

**Setting the DC coupling:**

Clicking on the "==" button activates DC voltage or direct current measuring mode:

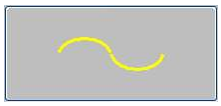


When a measurement option is started, the DC voltage or direct current test parameter is automatically active, provided this measuring mode is supported. The bar graph in the display area is centred in this case and thus divided into a positive and a negative area.




**Setting the AC coupling:**

Clicking on the "~" button activates AC voltage or alternating current measuring mode:

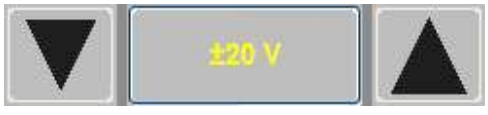


The bar graph in the display area is left-justified in this case.




**Setting the measuring range:**

When starting a measurement option, the automatic measuring range selection is active. In this case the arrow buttons to the left and right of the measuring range display are not active and can therefore not be used.



Measuring range button in DC automatic mode



Measuring range button in AC automatic mode

To switch from automatic to manual measuring range selection, click on the measuring range display button. In this case the arrow buttons to the left and right of the measuring range display are yellow or green. If the minimum or maximum measuring range is reached, the corresponding button is inactive (black).



Measuring range button in DC manual mode



Measuring range button in AC manual mode

**Note:**

In addition to the indication directly in the measuring range button, the current measuring range is also shown in the display area on the left and right end of the bar graph's scale.

If the current measured value is not within the set measuring range, "++++" characters are displayed if the range is exceeded and "- - - -" if it is fallen short of.

**Setting single measurements or parallel measurements:**

In the case of a single measurement, only one measurement option from function block 1 or 2 is active. In the case of a parallel measurement, one measurement option from function block 1 and one from 2 are active at the same time.

**Note:**

In the case of active parallel measurement, both test results are output in the display area, and the bar graph and minimum/maximum function are not available. In the function area, the Minimum/minimum button is hidden.

## 9.2.1. Voltage measurement with the URDI measuring lead

**To activate the "Voltage URDI" measuring function, use the button of the same name:**




**Figure 9.5. Client area for activated "Voltage URDI" voltage measurement**

The following **test parameters** can be set:

- Coupling: DC voltage or AC voltage
- DC voltage measuring range: ± 2V | ± 20V | ± 50V
- AC voltage measuring range: 0...2V | 0...20V | 0...40V
- Automatic or manual measuring range selection
- Functions: freeze frame, minimum/maximum, calibration

## 9.2.2. Current measurement with the URDI measuring lead

**To activate the "Current URDI" measuring function, use the button of the same name:**




**Figure 9.6. Client area for activated "Current URDI" current measurement**

The following **test parameters** can be set:

- Coupling: direct current or alternating current
- Direct current measuring range: ± 200mA | ±2A
- Alternating current measuring range: 0...200mA | 0...2A
- Automatic or manual measuring range selection
- Functions: freeze frame, minimum/maximum, calibration

## 9.2.3. Resistance measurement with the URDI measuring lead

**To activate the "Resistance URDI" measuring function, use the button of the same name:**

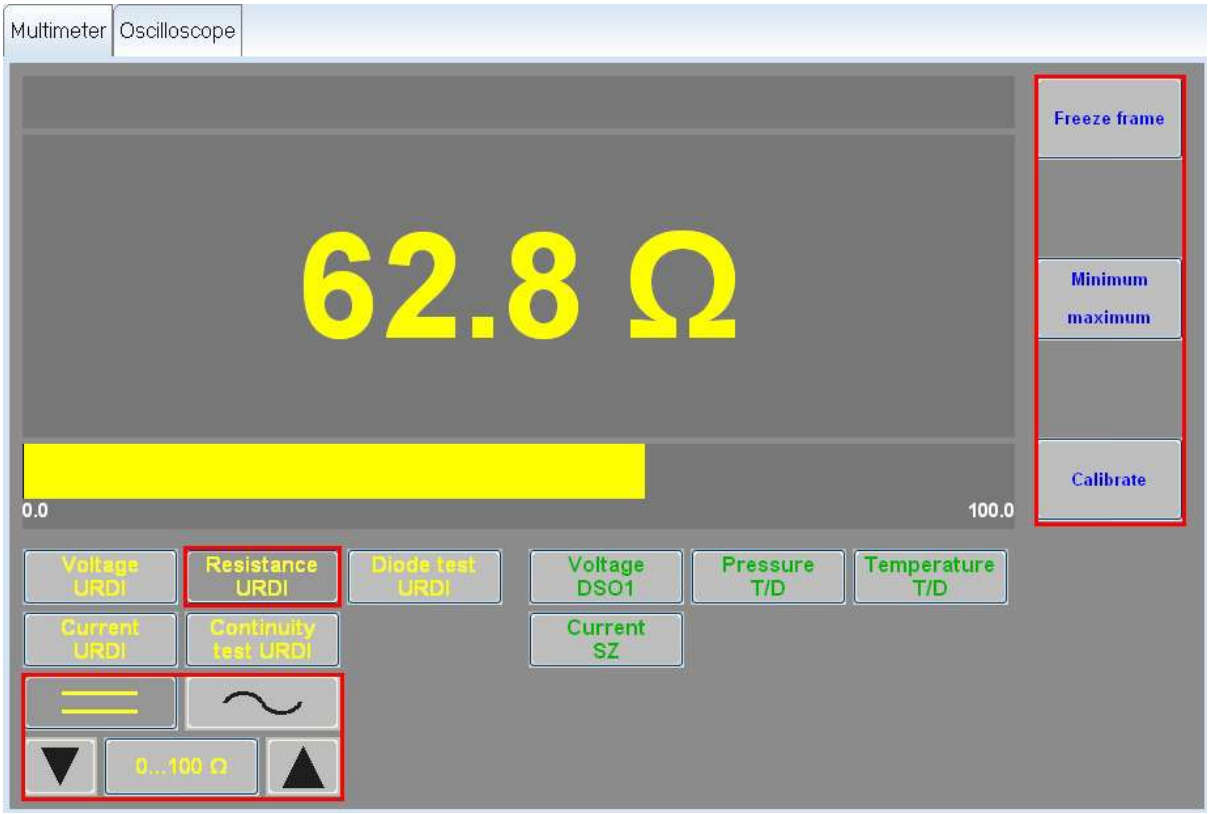



**Figure 9.7. Client area for activated "Resistance URDI" resistance measurement**

The following **test parameters** can be set:

- Measuring ranges: 0...10Ohm / 0...100Ohm / 0...1kOhm / 0...10kOhm / 0...100kOhm / 0...1MOhm / 0...10MOhm
- Automatic or manual measuring range selection
- Functions: freeze frame, minimum/maximum, calibration

**Note:**

If the measuring ranges 0 - 10Ohm or 0 - 100Ohm are selected manually, calibration is necessary. For this, the red and black measuring probes need to be moved together. A system message will then ask you to carry out further operating steps. The message text "Calibration in progress" is shown in the display area during calibration.

**Note:**

Additional contact resistance up to the object being measured can be compensated for by means of manual calibration. Due to a short circuit directly at the object being measured, not only the measuring lead but also the supply lead to the object being measured are included in the calibration.

## 9.2.4. Diode test with the URDI measuring lead

**To activate the "Diode test URDI" measuring function, use the button of the same name:**

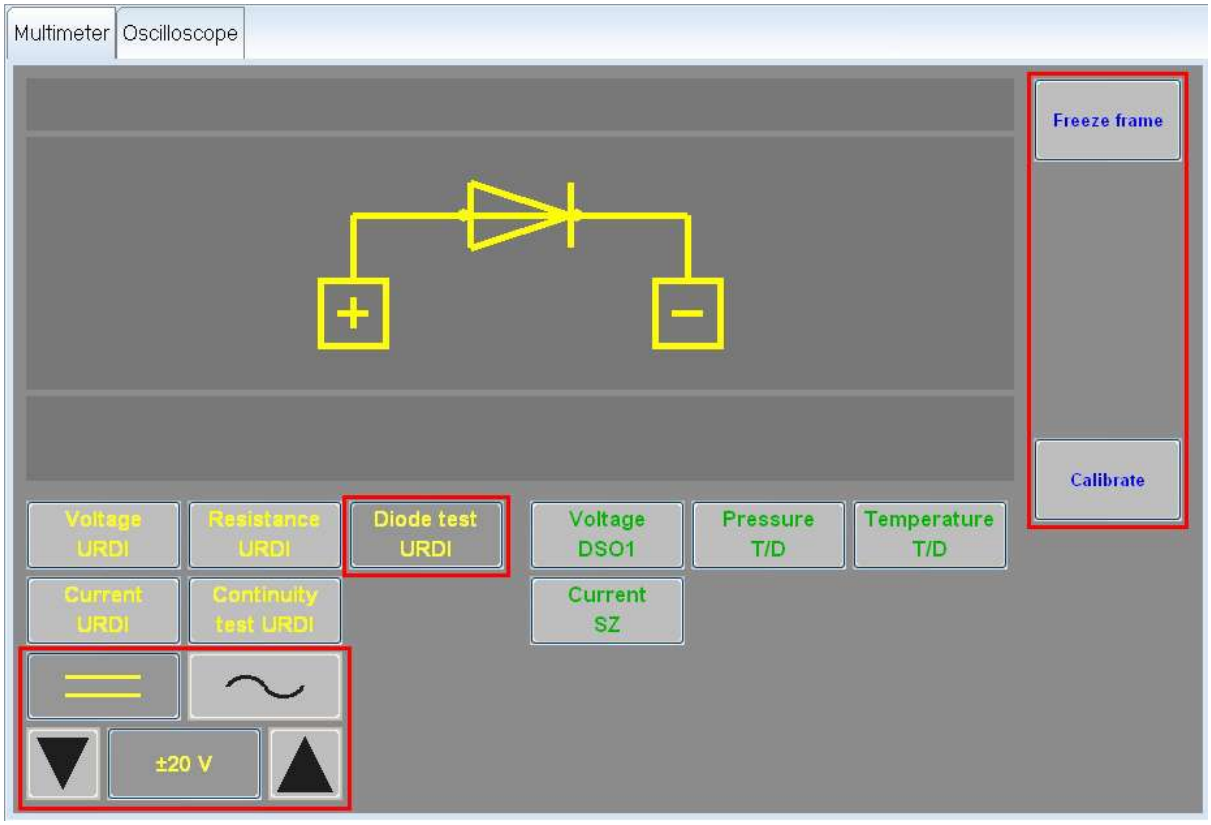


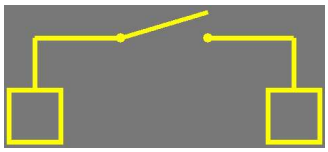

**Figure 9.8. Client area for activated "Diode test URDI"**

The **result of the diode test** is then displayed as a diagram in the display area. The following four states can be distinguished:

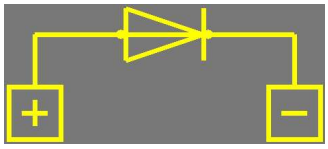
- Short-circuit - diode defective or the connected object being measured does not have a diode function



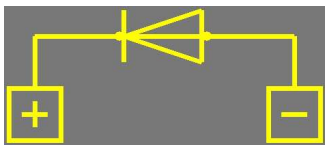
- Interruption - diode defective or the connected object being measured does not have a diode function



- Diode connected in forward direction



- Diode connected in reverse direction



## 9.2.5. Continuity test with the URDI measuring lead

**To activate the "Continuity test URDI" measuring function, use the button of the same name:**

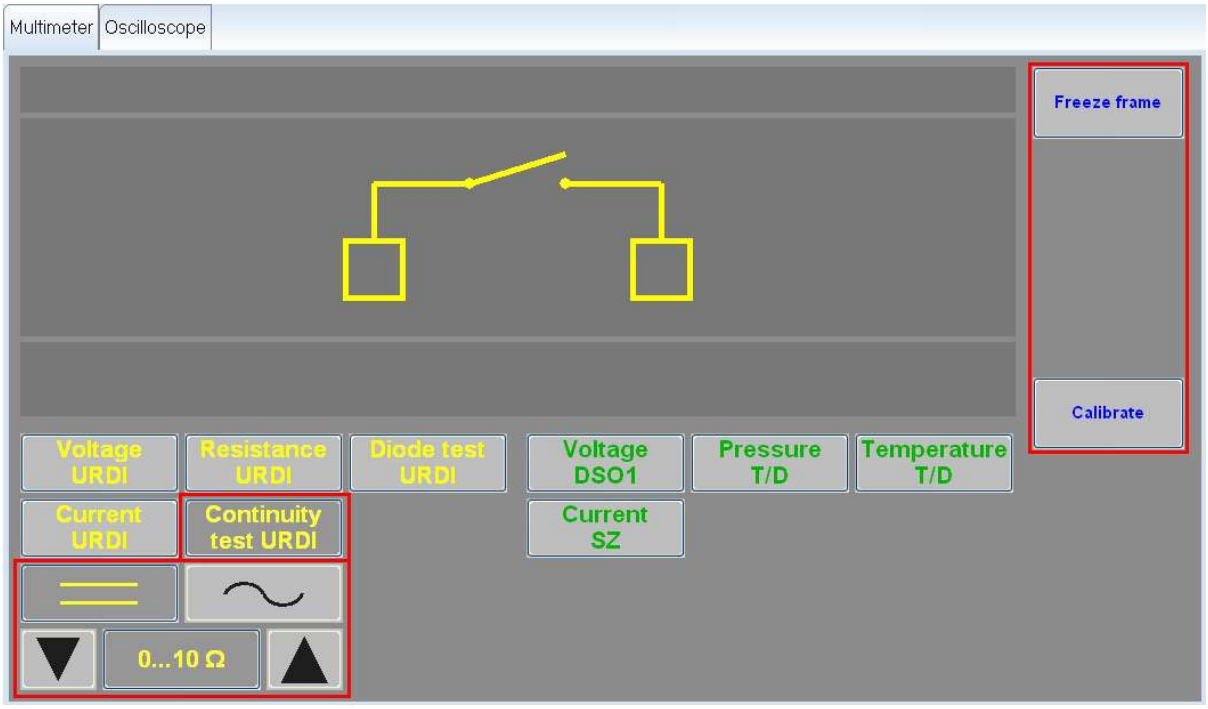



**Figure 9.9. Client area for activated "Continuity test URDI"**

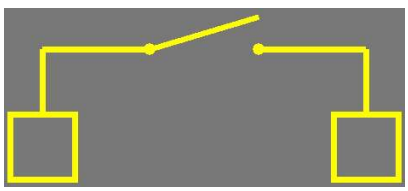
The **result of the continuity test** is displayed as a symbol in the display area. The following two states can be distinguished:

- Circuit closed (if line resistance <= 2 ohm)

  If the circuit is closed, an audible signal also sounds.

- Circuit open

## 9.2.6. Voltage measurement via the DSO1 measuring socket

**To activate the "Voltage DSO1" measuring function, use the button of the same name:**

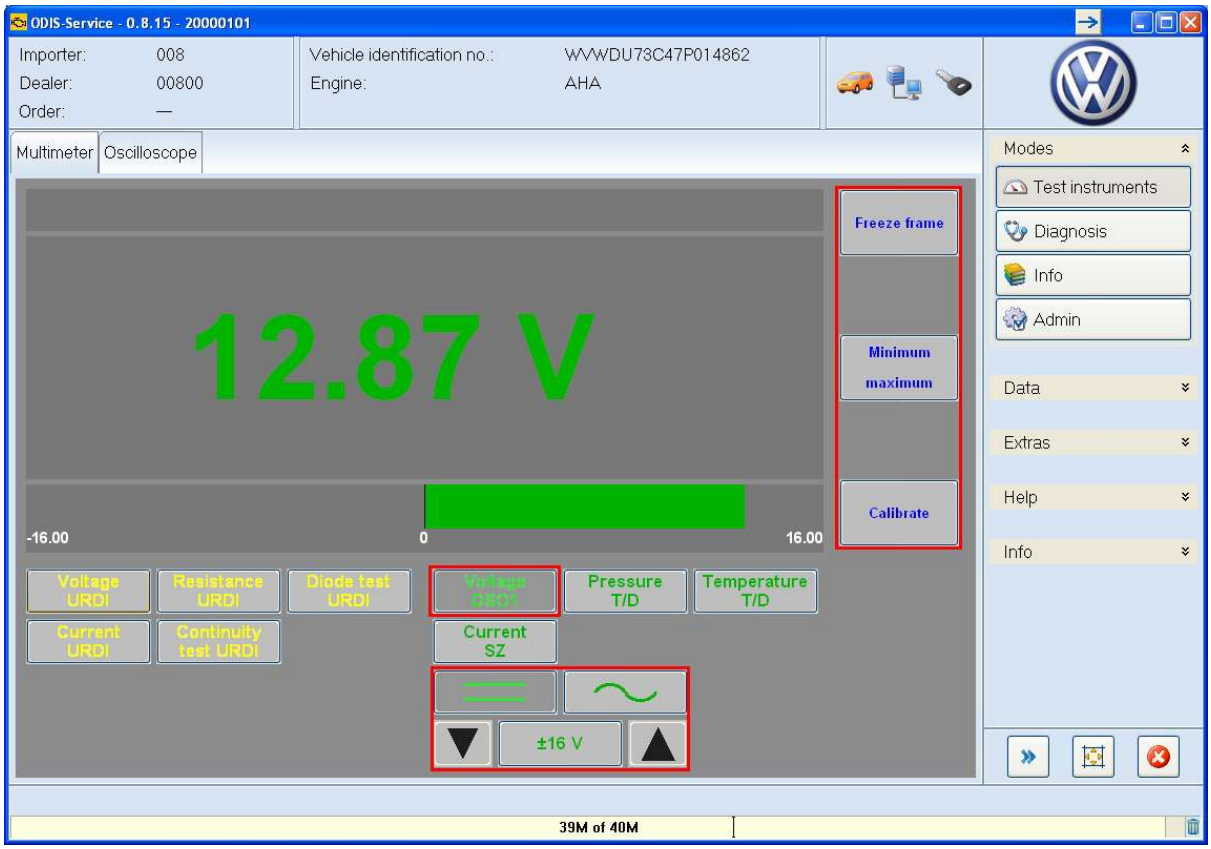



**Figure 9.10. Client area for activated "DSO1" voltage measurement**

The following **test parameters** can be set:

- Coupling: DC voltage or AC voltage
- DC voltage measuring range: ± 0.4V | ± 1.6V | ± 4V | ± 16V | ± 40V | ± 160V | ± 400V
- AC voltage measuring range: 0...0.4V | 0...1.6V | 0...4V | 0...16V | 0...40V | 0...160V | 0...400V
- Automatic or manual measuring range selection
- Functions: freeze frame, minimum/maximum, calibration

## 9.2.7. Current measurement with the clamp-on ammeter

**To activate the "Current clamp-on ammeter" measuring function, use the button of the same name:**




**Figure 9.11. Client area for activated "Current clamp-on ammeter" current measurement**

The following four clamp-on ammeter types are supported: 50A SZ / 100A SZ / 500A SZ / 1800A SZ.

The following **test parameters** can be set:

- Coupling: direct current or alternating current
- Direct current measuring range: ± 5A | ± 10A | ± 50A | ± 100A | ...
- Alternating current measuring range: 0...5A | 0...10A | 0...50A | 0...100A | ...
- Automatic or manual measuring range selection
- Functions: freeze frame, minimum/maximum, calibration

**Note:**

The first time the measurement option is started, you will be requested to perform calibration. Current measurement cannot be started as long as the information text "Calibration in progress" is shown at the top of the display area. Do not clamp the clamp-on ammeter to live wires during calibration.

If the clamp-on ammeter is open, the warning "Clamp-on ammeter not closed!" will appear in the display area but the running measurement will not be interrupted. For this reason, always check that the clamp-on ammeter fits correctly before starting a long-term measurement, for example.

**Note:**

For measurements with the clamp-on ammeter, perform manual calibration again after changing from low to high current due to magnetisation effects.

The maximum possible measuring range for a connected clamp-on ammeter is automatically identified, and the corresponding test parameters are adjusted.

## 9.2.8. Pressure measurement via T/P device socket

**To activate the "Pressure T/P" measuring function (depending on the device also "Pressure T/P 1"), use the button of the same name:**

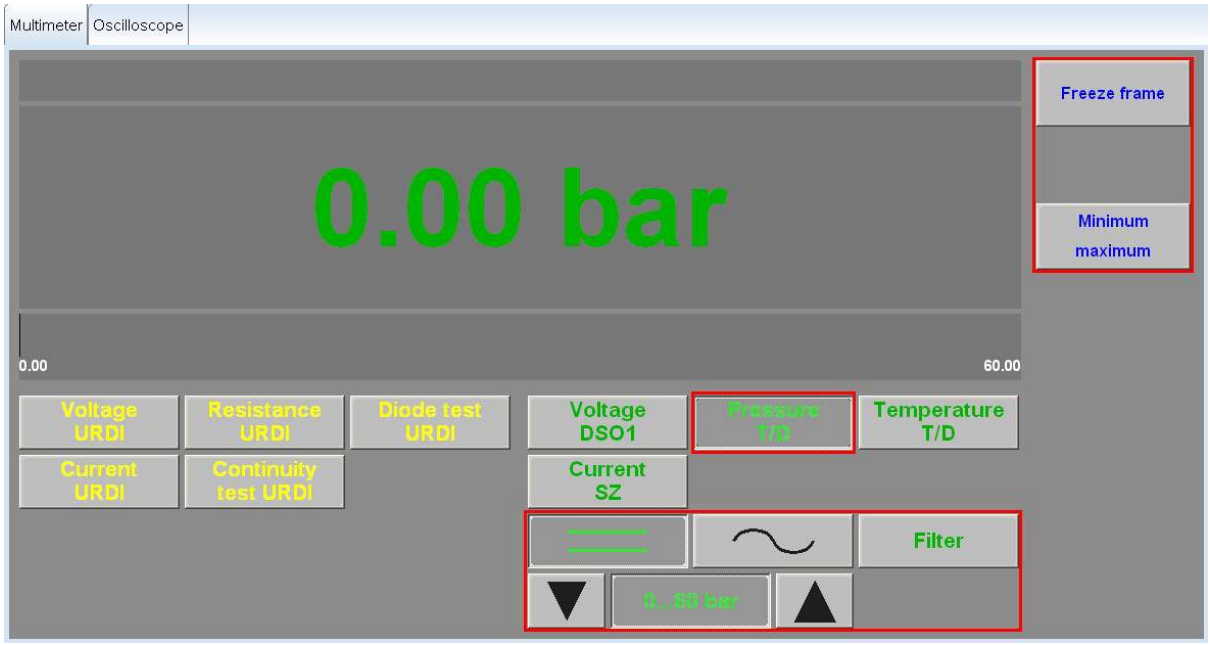



**Figure 9.12. Client area for activated "Pressure T/P" pressure measurement**

For the pressure measurement, high-frequency interference can be filtered out by clicking on the **Filter** button. The corresponding button is also shown in function block 2 in the area of the test parameters.

The following **test parameters** can be set:

- Measuring range: automatic or manual measuring range selection
- Functions: freeze frame, minimum/maximum

**Note:**

A connected pressure sensor is automatically identified, and the measuring range is adjusted accordingly.

The unit of measurement for the pressure measurement can be set to "bar" or "lb/in$^2$" in Admin mode.

## 9.2.9. Temperature measurement via T/P device socket

**To activate the "Temperature T/P" measuring function (depending on the device also "Temperature T/P 2"), use the button of the same name:**

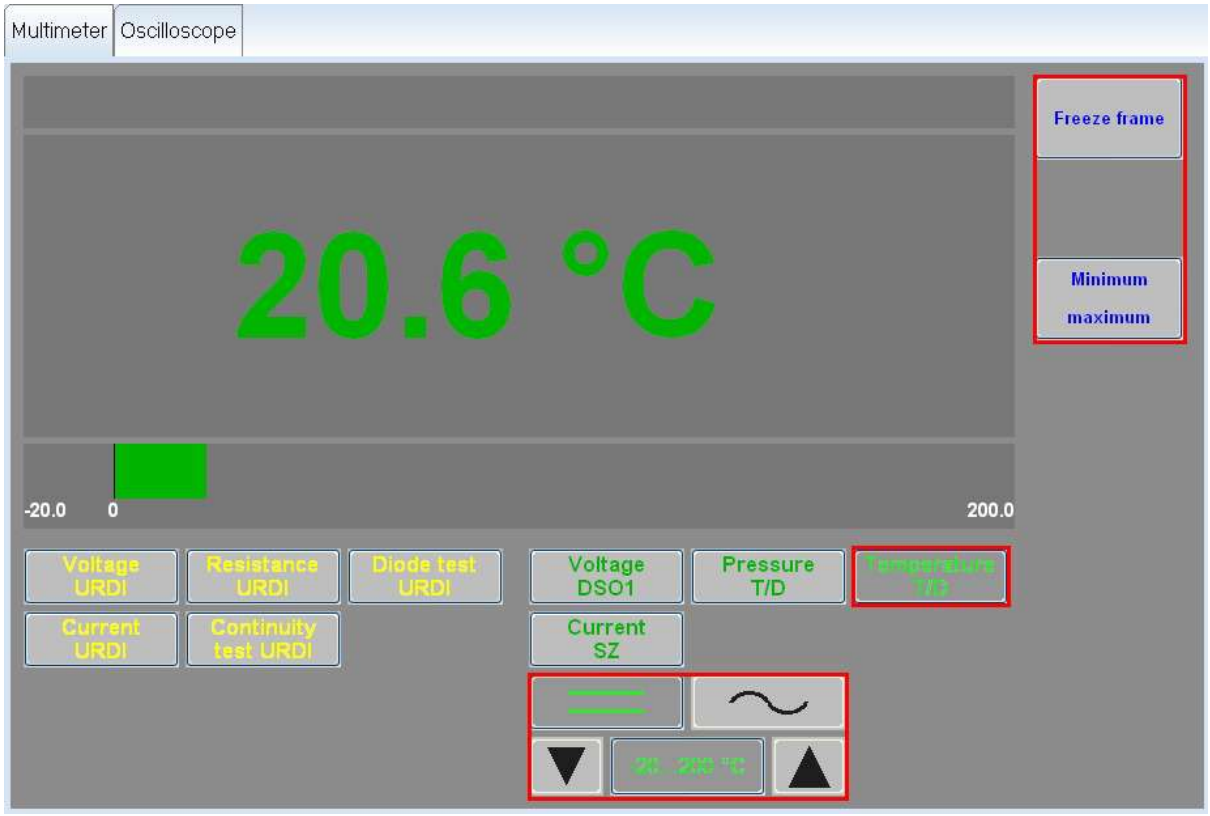



**Figure 9.13. Client area for activated "Temperature T/P" temperature measurement**

The following **test parameters** can be set:

- Measuring range: 20...200°C
- Functions: freeze frame, minimum/maximum

**Note:**

The connected temperature sensor for measurements in liquid or air is automatically detected. The unit of measurement for the temperature measurement can be set to "°C" or "°F" in Admin mode.

# 9.3. The Oscilloscope client area

The "Oscilloscope tab" on the tab bar is used to activate the corresponding client area. Use the **Oscilloscope** function to make user-defined settings for the measuring leads connected via the device sockets and to use these instruments. Measuring functions can be set, measurements can be made and test results can be displayed, saved and compared using the digital storage oscilloscope.

**If the "Oscilloscope" function is active, the following client area is visible:**

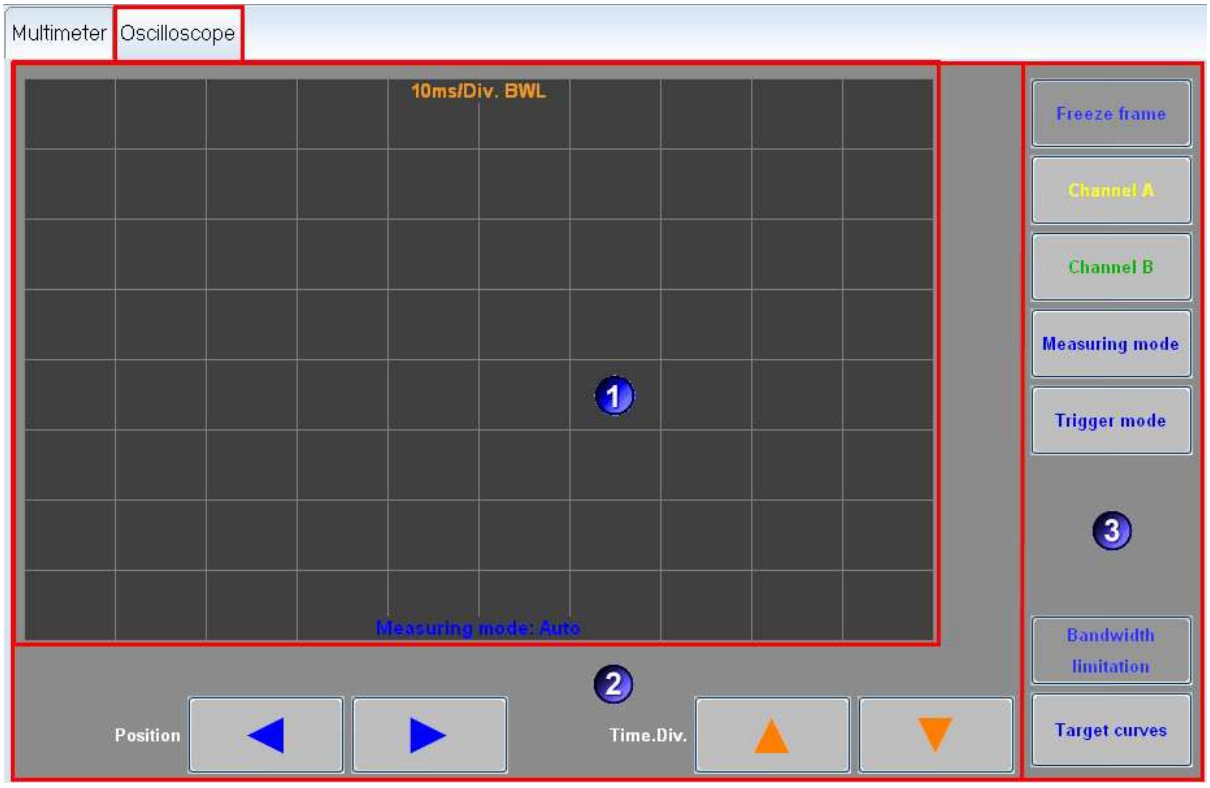



**Figure 9.14. Structure of the "Oscilloscope" client area**

The "Oscilloscope" **client area** consists of three areas:

**1 Display area:**

Signal curves are displayed in a two-dimensional system of coordinates here. The horizontal axis (x axis) is the time axis and the vertical axis (y axis) is the amplitude axis. Up to four signal curves can be displayed at the same time. To facilitate the assignment of the test parameters (in the corners of the display area), the captions of the buttons and the signal curves are displayed in different colours:

- Yellow - **Channel A**
- Green - **Channel B**
- Blue - **Target curve, channel A**
- Red - **Target curve, channel B**

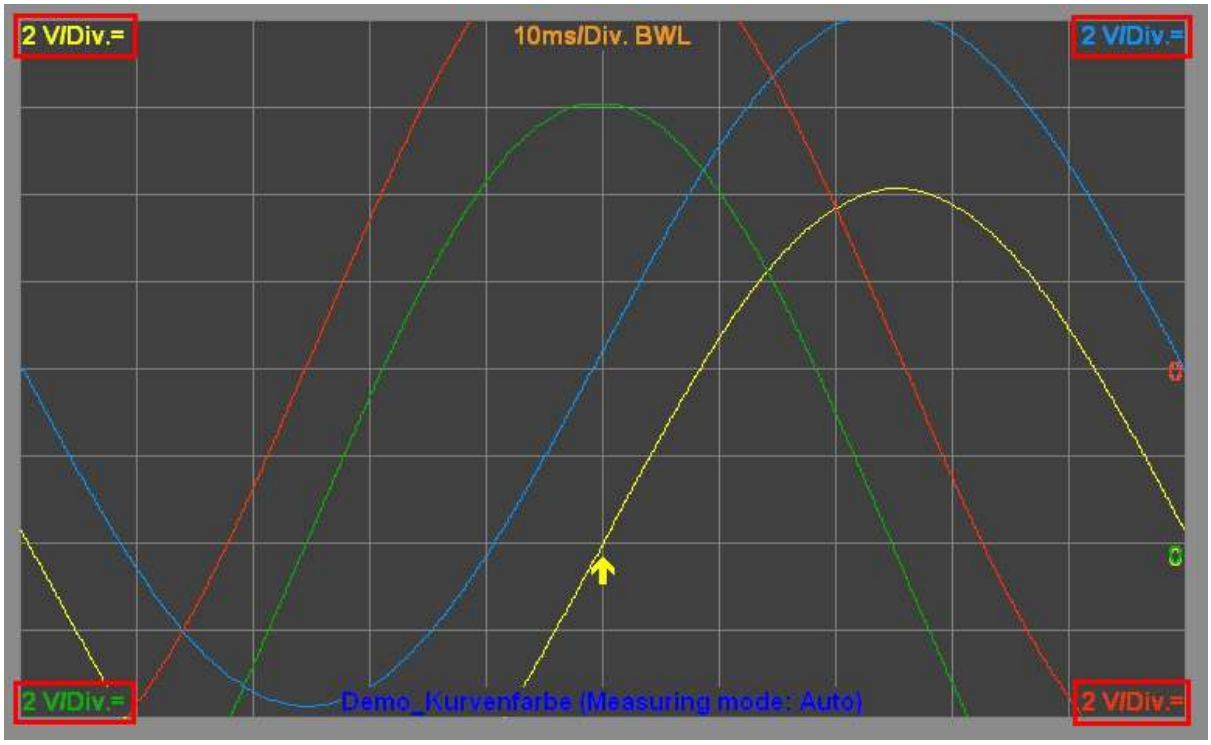



**Figure 9.15. "Oscilloscope" display area**

**2 Operating area:**

In the operating area, various measuring functions can be parametrised using the buttons. The buttons shown depend on the function active in the function area.

**⇨ Reference:**

See also chapter **Image position and time base**

**3 Function area:**

The corresponding buttons in the function area can be used to select relevant service functions for each measurement or the selected test procedure. The following functions can be selected:

- **Freeze frame** - The cyclic repetition of the measurement is stopped and the last diagram is displayed. In addition, the **Cursor 1** and **Cursor 2** buttons appear.

  **⇨ Reference:**

  See also chapter **Freeze frame**

- **Channel A and channel B** - Parametrisation of channels A and B

  **⇨ Reference:**

See also chapter **Channel parametrisation**

- **Trigger mode** - Trigger parametrisation




⇨ **Reference:**

See also chapter **Trigger parametrisation**

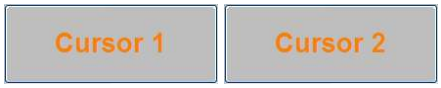
- **Measuring mode** - Setting the measuring mode




⇨ **Reference:**

See also chapter **Setting the test parameters**

- **Cursor 1 and Cursor 2** - Setting the start point / end point of a mark




⇨ **Reference:**

See also chapter **Freeze frame**

- **Bandwidth limit** - Activating / deactivating the band-pass filter. The bandwidth limit is already active after starting the "Oscilloscope" client area.




⇨ **Reference:**

See also chapter **Bandwidth limit**

- **Target curves** - Recording and playing target curves




⇨ **Reference:**

See also chapter **Target curves function**

# 9.3.1. Image position and time base

In the default setting of the digital storage oscilloscope, the arrow buttons shown in the operating area can be used to set the image position and the timebase for the signal curves.

- **Image position**: The signal curves can be moved horizontally in the grid. The trigger point (coloured arrow (  ) according to the channel colour) can be moved along with the curve. Once the maximum left or right image position has been reached, the respective arrow button becomes inactive.




- **Timebase**: Scanning the signal curves in x-direction can be increased and reduced. The current timebase is shown centred in the top edge of the display area. Once the maximum or minimum timebase has been reached, the corresponding arrow button becomes inactive.




**Note:**

To set the image position and timebase, the buttons **Channel A**, **Channel B** , **Measuring mode**, **Trigger mode** and **Target curves** should not be enabled.

**Note:**

| | *Timebase in Draw mode* | *Timebase in other modes* |
|---|---|---|
| *1-channel active* | 0.2...100 s/div.<br><br>with active long-term measurement: 5ms/div. to 100 s/div. | 1.25 µs/div. to 0.1 s/div.<br><br>with active Min/Max function: 5 µs/div. to 0.1 s/div. |
| *2-channels active* | 0.2...100 s/div.<br><br>with active long-term measurement: 5ms/div. to 100 s/div. | 2.5 µs/div. to 0.1 s/div.<br><br>with active Min/Max function: 5 µs/div. to 0.1 s/div. |

**Table 9.1. Setting the timebase**

The minimum timebase (1.25 µs/div.) can only be set for single-channel operation (channel A or channel B active). In dual-channel operation, the minimum timebase is 2.5 µs/div. The timebases 20, 50 and 100 s/div can only be set in **Draw** measuring mode.

## 9.3.2. Channel parametrisation

To activate the operating area for parametrisation of the respective channel, click on the **Channel A** or **Channel B** button. To exit channel parametrisation, click on the selected button again.

After activating the **Channel A** or **Channel B** button, a parametrisation dialogue in the colour of the activated channel appears in the **operating area**. Channel parametrisation is explained below using channel A as an example. The same procedure applies to channel B.

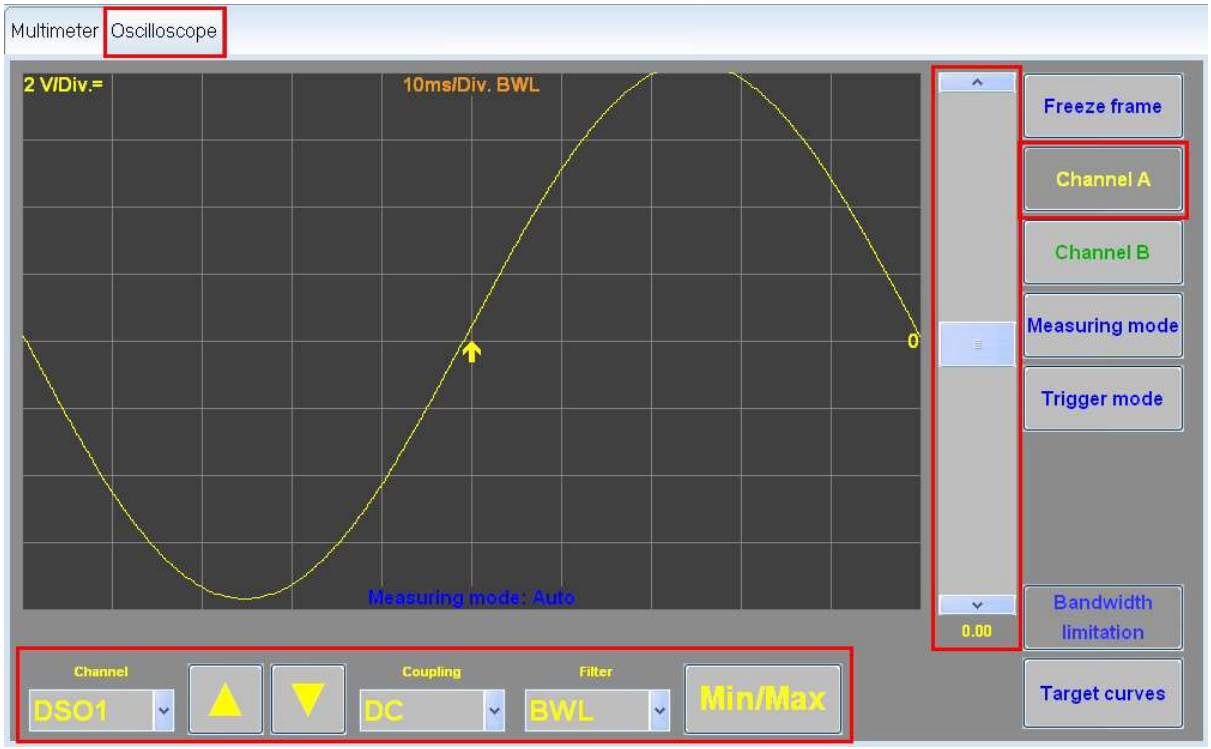



**Figure 9.16. Parametrisation of channel A**

**Assigning the measurement option:**

Click on the arrow of the **Channel** pop-up menu in the operating area to assign the desired **measuring functions** to the active channel.




The following measuring functions are available:

- **OFF** - No measurement connection selected
- **DSO1** - DSO channel A
- **DSO2** - DSO channel B
- **KV** - KV clamp
- **Temp. T/P** - Temperature corresponding to connected sensor

  or also, depending on the device:

  **Temp. T/P-1** and **Temp. T/P-2**
- **Pressure T/P** - Pressure corresponding to connected sensor

  or also, depending on the device:

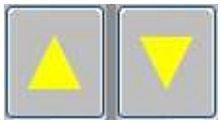
  **Pressure T/P-1** and **Pressure T/P-2**
- **SZ**- Clamp-on ammeter

**Note:**

In case of a parallel measurement, channel A and channel B are assigned a measurement option and both are active. In case of a single measurement, either channel A or channel B is active.

**Setting the measuring range:**

Use the **arrow buttons** in the operating area to set the measuring range (unit of meas./div.). If the minimum or maximum **measuring range** is reached, the corresponding button is disabled (black).



The set measuring range is output together with the coupling in the colour of the respective channel in the **display area** (channel A top left, channel B bottom left).

**Setting the coupling:**

To assign the desired **measuring mode** to the active channel, click on the arrow of the **Coupling** pop-up menu in the operating area.




The following test parameters are available:

- **AC** coupling against AC voltage

  With an AC coupling, any DC voltage components of a measuring signal are blocked and only the AC voltage component is displayed. That is practical if the DC voltage component of a measuring signal is much higher than the AC voltage component, which would be falsified by the indicated value.

- **DC** coupling against DC voltage

  With a DC coupling, DC and AC voltage components are displayed.

- **GND** (ground) coupling with earth

The set **coupling** ("=" DC; "~" AC) is output together with the measuring range in the colour of the respective channel in the **display area** (channel A top left, channel B bottom left).

**Setting the filter:**

Click on the arrow of the **Filter** pop-up menu in the operating area to assign the desired **filter type** to the active channel.



The following filter types are available:

- **OFF** - No filter is active.
- **HF** (high-pass filter) - Filters out everything below a frequency limit.
- **LF** (low-pass filter) - Filters out everything above a frequency limit.

**Reference:**

See also chapter **Bandwidth limit**

**Show limit values:**

To activate the indication of the limit values, click on the **Min/Max** button in the operating area.




The current minimum and maximum measured values (after activation of the function) are output numerically in the centre at the bottom part of the **display area** in the colour of the respective channel. If the function is deactivated, the limit values measured so far are discarded.

**Note:**

The **Min/Max** function is activated or deactivated simultaneously for a parallel measurement for both channels.

**Moving the signal curve**

The signal curves can be moved vertically using the **scroll bar** (on the right next to the display area). The trigger point (coloured arrow ( ) according to the channel colour) can be moved along with the curve. The signal curves for channel A and channel B can be moved independently of each other.

The offset to the base line is shown below the **scroll bar**.

**Note:**

If the minimum timebase of 1.25 µs/div has been set, only one channel can be activated. The button for the second channel is hidden.

## 9.3.3. Setting the measuring mode

If you click on the **Measuring mode** button, a parametrisation dialogue will appear in the **operating area** to set the mode for entering measured values. The selected mode always applies to channel A and channel B. The selected measuring mode is displayed in the centre of the bottom part of the display area (blue text).

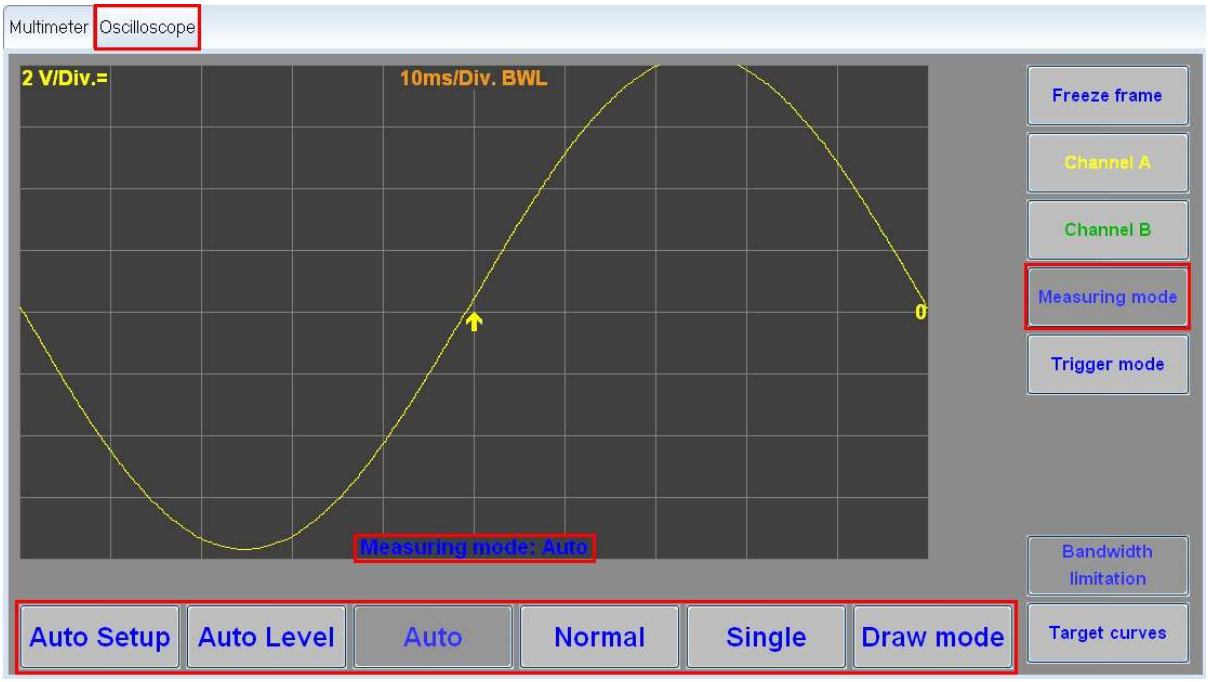



**Figure 9.17. Setting the measuring mode**

**Note:**

Which measuring mode buttons are visible depends on the channel parametrisation. Measuring modes that are not supported by the measuring functions assigned to the channels are hidden.

**Recording measured values in auto setup mode:**




Click on the **Auto Setup** button to perform automatic setup, i.e. the amplitude of the active channels, the timebase and the trigger threshold are automatically set. Auto setup is carried only once after each call. Measuring mode then switches automatically to auto level mode.

**Recording measured values in auto level mode:**




Click on the **Auto Level** button to automatically update the relative trigger threshold set (percentage threshold in the range of ±100% of the signal amplitude) so that there is always only one triggered signal regardless of the signal amplitude.

**Note:**

**Auto Setup** and **Auto Level** can only work correctly if there is a periodic signal with a low degree of interference.

In **Auto Level** measuring mode, signals can be triggered regardless of their amplitude height and zero position, since triggering refers to a percentage amplitude value. When switching from **Auto Setup** mode, triggering is automatically set to 0% of the amplitude value.

**In auto measuring mode:**




Click on the **Auto** button to start the measurement automatically when there is a valid trigger event (corresponding to the set trigger threshold) or after a delay time has elapsed (which depends on the selected timebase).

**Note:**

If no information about the signal is available, use **Auto** measuring mode. A signal curve is also output if the trigger is outside the amplitude (untriggered display). The trigger can then be guided manually to a value in the amplitude range to produce a frozen image.

**Recording measured values in normal mode:**




Click on the **Normal** button for the cyclic measurement to be performed only if there is a valid trigger event.

**Note:**

**Normal** measuring mode should be used only if there is exact information on the amplitude and frequency of the measuring signal. A triggered signal curve is only output if the trigger is within the amplitude range of the signal.

**Recording measured values in single mode:**




Click on the **Single** button to perform only a single measurement after a valid trigger event. The signal is measured and displayed immediately as a **freeze frame**. Make sure that there is a valid trigger event.

**Recording measured values in draw mode:**




Click on the **Draw** button to perform the measurement without trigger. The signal curve in the display area is displayed continuously from the left to the right. **Draw** measuring mode serves to display low-frequency or slow signals (e.g. lambda probe). **Long-term measurement** is also possible in this measuring mode.

**Reference:**

See also **Long-term measurement** chapter

---

**Note:**

High-frequency or fast signals cannot be displayed in **Draw** measuring mode. A timebase from 0.2 to 100 s/div can be set.

The **Trigger mode** function for parametrising the trigger is not available after **Draw** measuring mode has been activated.

---

**Note:**

In case a signal curve is not displayed after **Auto Setup** measuring mode has been started, check the following points in this order:

1. Is the DSO measuring lead connected correctly to the device socket and the signal source?
2. Has channel parametrisation been performed correctly? Have the desired measurement options been assigned correctly to the channel (e.g. channel A is assigned to DSO1)?

   **Reference:**

   See chapter: **Channel parametrisation**
3. Are measuring mode and, if necessary, the trigger set correctly?

   **Reference:**

   See chapter: **Setting the measuring mode**
4. Finally, automatic setup should be repeated.

## 9.3.4. Long-term measurement in draw mode

**Note:**

**Long-term measurements** can only be performed in **Draw** measuring mode. This function is not available in any of the other measuring modes!

After **Draw** measuring mode has been activated, the **Long-term measurement** function is available in the **function area**.




With this measuring function, a user-defined time interval can be set during which the measurement is performed. After recording has taken place, the measuring curves are output across the width of the window in compressed form. The use of the long-term measurement is explained in the following sub-items:

**Parametrisation of the long-term measurement:**

To display the corresponding parametrisation dialogue in the **operating area**, click on the **Long-term measurement** button in the **function area**. The **Freeze frame** function is automatically activated during parametrisation.

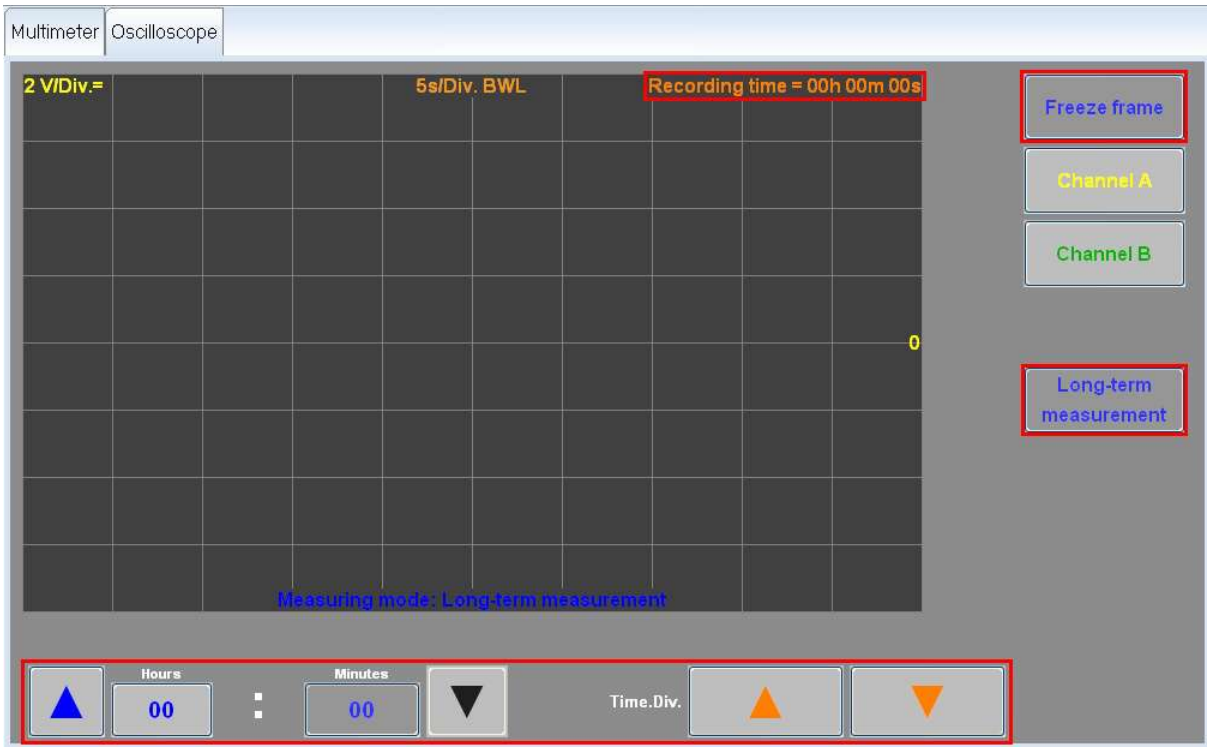


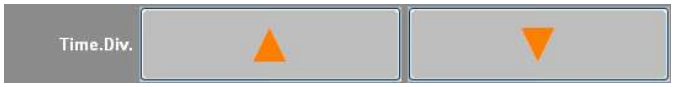

**Figure 9.18. Parametrisation of long-term measurements**

**Setting the measuring duration:**



After clicking on the buttons with the **Minutes** or **Hours** caption, the blue arrow buttons at the side can be used to increase or reduce the measuring time. If the maximum or minimum time interval is reached, the corresponding button is disabled (black). The elapsed recording time is output in the top right part of the display area. The measuring time remains the same if the measurement is repeated.

**Setting the timebase:**




The procedure for setting the timebase is similar to the procedure described in the chapter **Image position and timebase** . The set timebase in the long-term measurement function is saved independently of the timebase for the other measuring modes.

---

**Note:**

The maximum measuring time for a long-term measurement is limited by the timebase (sampling rate). The data quantity increases proportionately with the sampling rate. The maximum recording time is 55 hours and 33 minutes for a time base of 10s/div.

The measuring duration is adjusted automatically by the device if the timebase is changed. The following table lists the maximum measuring times in relation to the set timebase:

| *Set timebase [time/div.]* | *Maximum measuring time [h:min]* |
|---|---|
| 5ms/div. | 00:01 |
| 10ms/div. | 00:03 |
| 20ms/div. | 00:06 |
| 50ms/div. | 00:16 |
| 0.1s/div. | 00:33 |
| 0.2s/div. | 01:06 |
| 0.5s/div. | 02:46 |
| 1s/div. | 05:33 |
| 2s/div. | 11:06 |
| 5s/div. | 27:46 |
| 10s/div. | 55:33 |

**Table 9.2. Maximum measuring time during long-term measurement**

---

**Starting the long-term measurement:**

To start the long-term measurement, click on the locked **Freeze frame** button.

If the set measuring time has elapsed, the **Freeze frame** function is automatically activated and the measurement ends. The text "Long-term measurement ended" also appears in the display area. All recorded data is shown across the width of the **display area** in compressed form.

After the measurement has ended, the signal curves can be evaluated using the cursor function. It is also possible to zoom in on a selected area as required. The corresponding buttons are shown in the function area (see "Evaluating long-term measurements" sub-item).

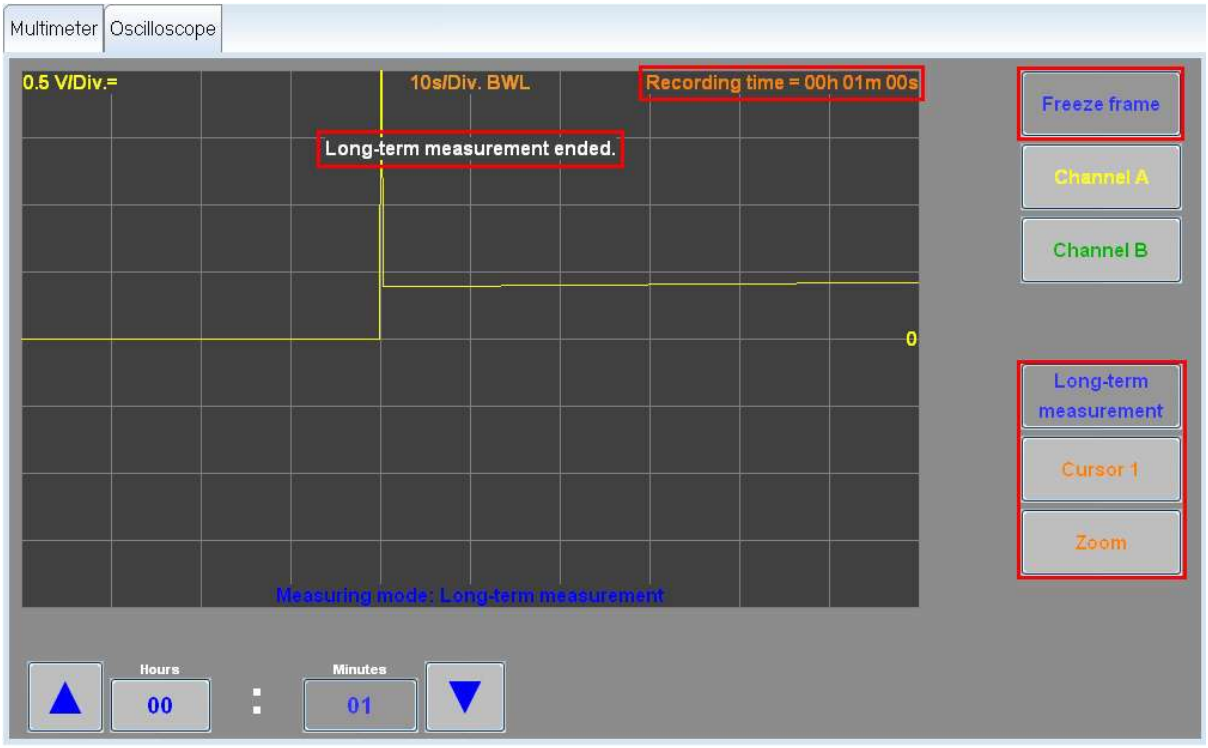



**Figure 9.19. Evaluating long-term measurements**

**Note:**

The values set for a measurement cannot be changed during the **long-term measurement**.

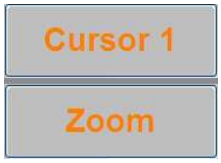
It is advisable not to connect or disconnect USB periphery devices during an active measurement, since that could result in the loss of data.

**Cancelling the long-term measurement:**

To stop a **long-term measurement** before it is finished, click on the **Freeze frame** button. The data measured so far can be evaluated, despite the cancellation. The text "Long-term measurement cancelled" appears in the display area.

**Evaluating the long-term measurement**

After a **long-term measurement** has been finished, the **Cursor 1** and **Zoom** buttons are displayed.

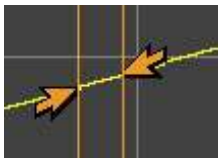



The **Zoom** button is only available if the **Cursor 1** button is not active. It serves to zoom in on a detail of the signal curve.

There are two methods for increasing the size of a section of the recorded signal curve using the **Zoom** function:

- If you click on the curve section to be increased in size, this section is immediately displayed across the entire width of the display area with the minimum timebase.

- Click on the starting point of the curve area to be zoomed in on (hold down the right or left button) and move the cursor to the desired end point. Two **cursors** are shown for better orientation.

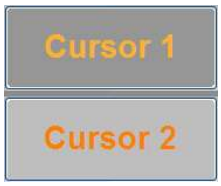


The selected area will then be zoomed in on across the entire width of the display area.

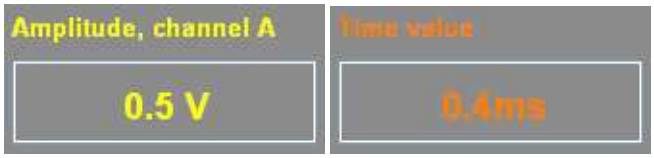
After the area has been selected, blue arrow buttons are shown in the operating area. Use these buttons to move the selected area to the left or right.




To activate the cursor function, click on the **Cursor 1** button. This is also possible using the **Zoom** function in order to evaluate a detail that has been zoomed in on. In the function area, use the respective button to select between **Cursor 1** and **Cursor 2**.




Use the mouse or the touchscreen to move the respective cursor ( ) in the display area along the recorded **signal curve**. The current position is displayed in the amplitude and time function area:




The orange arrow buttons in the **operating area** can be used to position the marking cursor more precisely in the grid.




If both cursors are active, the difference in amplitude and time between the cursor positions is shown in the function area instead of amplitude and time.

**Note:**

The amplitude values and the difference in amplitude in the function area are shown in the colour of the respective channel. If both channels are active, the values are shown one below the other. The time value is the same for both channels.

## 9.3.5. Trigger parametrisation

To change the trigger settings, click on the **Trigger mode** button. After the function has been activated, the respective parametrisation dialogue appears in the **operating area**.

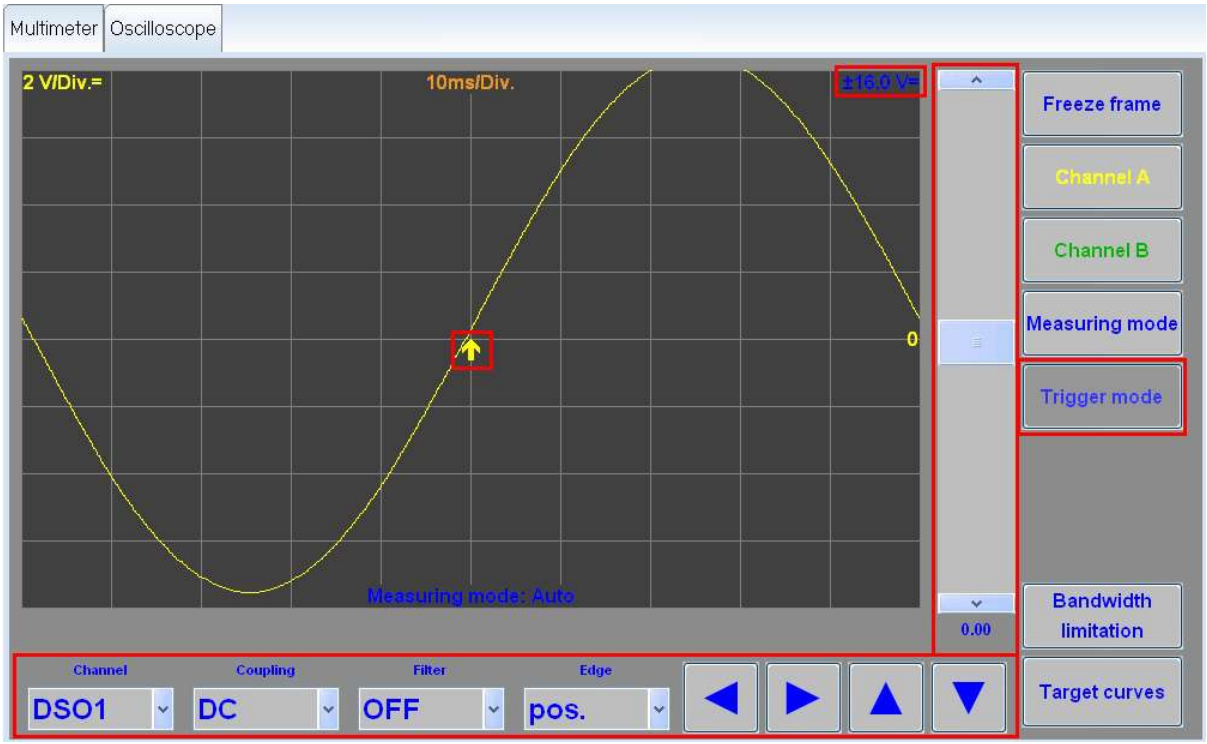



**Figure 9.20. Parametrisation of the trigger**

If a channel has already been parametrised, the relevant settings for this channel are automatically accepted for the trigger. It is not necessary to define any further settings for the trigger in this case. If no channels have been parametrised yet, a measurement connection has to be defined as the trigger before any further settings can be made.

### Setting the trigger threshold:

Use the **scroll bar** on the right side of the display area to set the trigger threshold to any trigger value ± 100% of the maximum measuring range. The maximum measuring range is displayed in blue font at the top right in the **display area**. The default setting for the trigger is a trigger threshold of 0.

The current trigger threshold is shown in the display area by means of an arrow ( ). If the trigger threshold is within the valid amplitude range, the arrow is shown in the colour of the respective channel. If triggering is external, the arrow is blue. If the trigger threshold is outside the valid amplitude range, the arrow is red.

The direction of the arrow (pointing up or down) indicates whether the trigger is triggered with a rising (positive) or falling (negative) edge.

The trigger voltage is displayed below the **scroll bar**. In **Auto Level** measuring mode, the trigger voltage is shown as a percentage value of the amplitude of the measuring signal (e.g.: the trigger voltage is 2.5V if the signal amplitude is ±5V and the trigger threshold is set to +50%).

### Note:

If **Draw** measuring mode is activated, the **Trigger mode** function is not available. Untriggered recording of the measured data will then take place.

**Selecting the trigger channel:**




The following measuring function can be set as a trigger by clicking on the arrow of the **Channel** pop-up menu:

- **OFF** - No measurement connection selected
- **DSO2** - DSO socket 2
- **DSO1** - DSO socket 1
- **KV** - KV clamp via KV device socket
- **Temp.** - Temperature via T/P device socket

  or also, depending on the device:

  **Temp. T/P-1** and **Temp. T/P-2** via T/P-1 and T/P2 device sockets
- **Pressure** - Pressure via T/P device socket

  or also, depending on the device:

  **Pressure T/P-1** and **Pressure T/P-2** via T/P-1 and T/P2 device sockets
- **SZ**- Clamp-on ammeter via SZ device socket
- **Trigger pick-up** - Trigger pick-up via TZ device socket

The available measuring signals of the set measuring function can then be used as a trigger event to trigger a measurement of the oscilloscope.

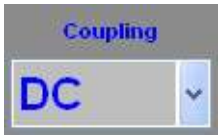
---

**Note:**

For the selected **trigger channel**, the corresponding measuring lead must be connected to the corresponding device socket. If no measuring lead is connected, the "Trigger missing!" error message is displayed in the display area.

---

**Selecting the trigger coupling:**




To set the measuring mode, click on the arrow of the **Coupling** pop-up menu.

- **AC** coupling against alternating current/voltage

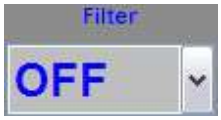
  With an AC coupling, any DC voltage proportions of a measuring signal are blocked and only the AC voltage proportion is displayed. That is practical if the DC voltage component of a measuring signal is much higher than the AC voltage component, which would be falsified by the indicated value.

- **DC** coupling against direct current/voltage

  With a DC coupling, DC and AC voltage proportions are displayed.

- **GND** (Ground) coupling with earth

**Selecting the filter:**




To select the filter type, click on the arrow of the **Filter** pop-up menu. Undesired signal components (in the high or low frequency range) of the measuring signal can thus be attenuated.

- **OFF** - No **filter** is active.
- **HF** (high-pass filter) - Filters out everything below a frequency limit.
- **LF** (low-pass filter) - Filters out everything above a frequency limit.

**Selecting the trigger edge:**



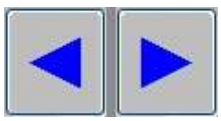

To select the trigger edge, click on the arrow of the **Edge** pop-up menu.

- **pos.** - Measuring signal triggered with rising edge
- **neg.** - Measuring signal triggered with rising edge

In case of a positive or negative edge, the arrow (trigger threshold) in the **display area** is displayed with the arrow pointing up or down.

**Moving the trigger point horizontally:**

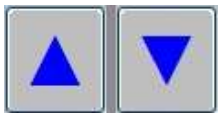
To move the trigger point to the left or right on the grid, click on the blue arrow buttons pointing horizontally (arrow in the **display area**).



If the trigger point is outside the **display area** after being moved, the arrow is red.

**Setting the range of values for the trigger amplitude:**

To set the range of values for the trigger amplitude, click on the blue vertical arrow buttons.



For externally triggered measuring signals, changing the range of values for the trigger amplitude does not have an effect on the measuring range and the depiction of the triggered measuring signal.

The set range of values for the **trigger amplitude** is shown in blue in the top right part of the **display area**. The value is only visible if the **Trigger mode** function is active.

**Note:**

For the trigger pick-up, is not possible to set the trigger threshold, the filter, the trigger edge or the trigger amplitude.

## 9.3.6. Bandwidth limit

To activate the **Bandwidth limit** (BWL) function, use the button of the same name. This places a low-pass filter with a frequency limit of 75kHz on the active measuring channels.




Activation of the bandwidth limit is shown centred in the display area next to the timebase.

**Note:**

To prevent the high-frequency band from being unintentionally filtered out by means of an activated bandwidth limit when the user has defined a high signal sampling frequency, the test instruments application features automatic deactivation of the BWL function.

The threshold is a timebase <= 0.1 ms/div (sampling rate >= 500kHz).

## 9.3.7. Target curve function

To activate the **Target curves** function, use the button of the same name. To deactivate the function, click on the **Back** button. After the function has been activated, the respective parametrisation dialogue appears in the **operating area**.

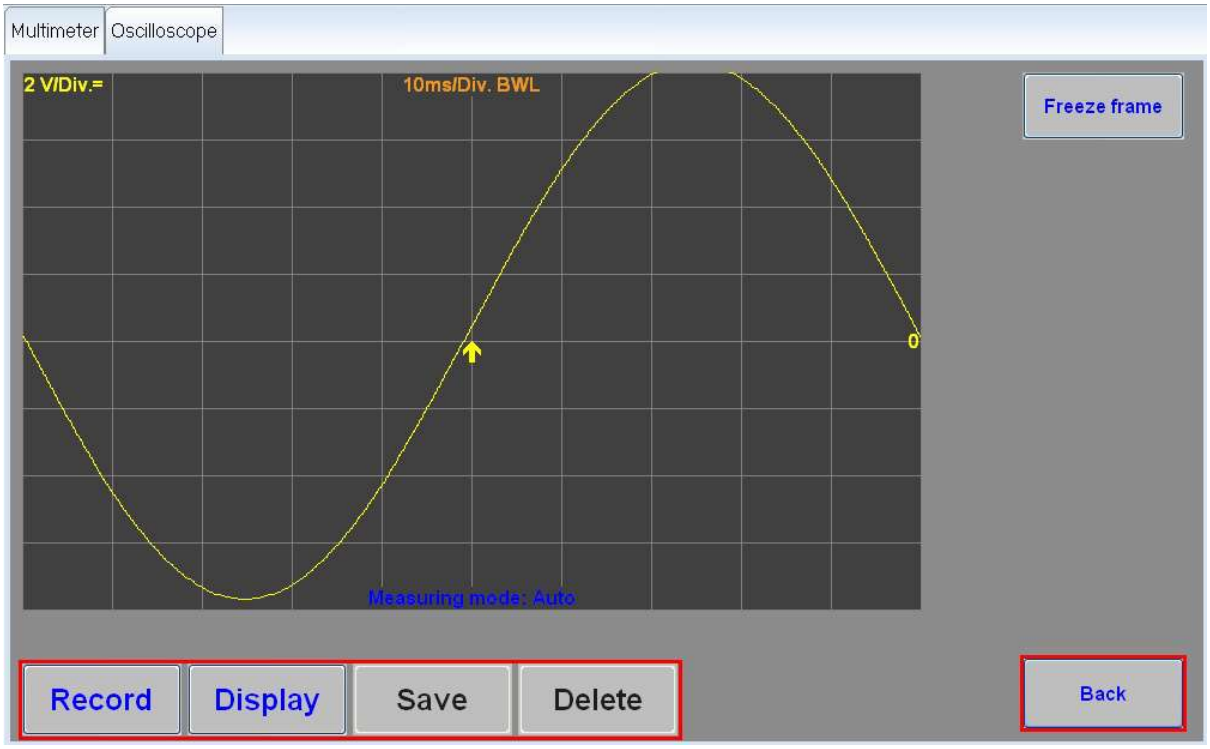



**Figure 9.21. Client area of the target curves function**

**Note:**

Target curves are for supporting the diagnostic technician in both guided fault finding and stand-alone test instruments with reference curves. The currently measured signal (yellow and green signal curve) can be compared to the reference signal (blue and red signal curve). If the characteristics of the measured signal match the characteristics of the reference signal, it can be assumed that the tested vehicle component is OK.

A distinction is generally made between two different modes when using the target curves function:

- **User mode:** Only existing target curves can be displayed. Only the "Display" button is available.
- **Expert mode:** In addition to displaying target curves, authenticated individuals can also record, save and edit target curves and implement them in function tests.

**Note:**

To activate the full target curve functionality, password authentication in "Admin" mode is required.

**Reference:**

See also **Admin mode** chapter

**Note:**

If the **Target curve** function is active, the channels, the trigger and the measuring mode cannot be parametrised.

**Recording target curves:**

To be able to record **target curves** at least one channel must be parametrised first. Simultaneous recording of two channels is also possible.

To start recording the measuring signal as a target curve, click on the **Record** button.




If the measurement is only running on one channel, the file name and the storage location of the target curve must be defined next.

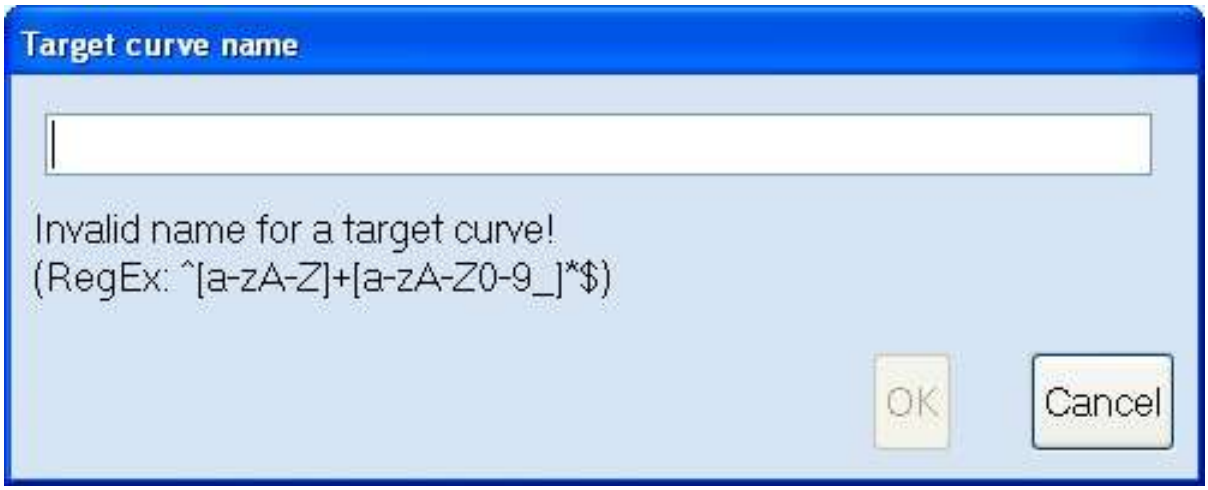



**Figure 9.22. Recording target curves**

If measurements are running on both channels, you need to choose between the following recording options before entering the file name and storage location:




**Figure 9.23. Recording target curves of two channels**

Make the selection by clicking on the appropriate button and then confirming it by clicking on **OK**. Afterwards, enter a file name and a directory to save the file as you would for a single-channel measurement.

All settings defined for the channels, the trigger, the measuring mode, the timebase and image position are saved.

**Displaying target curves:**

Click on the **Display** button to show recorded **target curves**.




After selecting the directory and target curve file, the corresponding target curve is shown in the display area. The file name of the target curve is displayed in the centre of the bottom part of the display area. The previous target curve file format *.sk2 is supported as well as the file format *.sk3 introduced with ODIS.

If a measurement is running, this measurement is stopped and the channels, the trigger, the measuring mode, the timebase and the image position are set in accordance with the **target curve**. The signal curves can be distinguished according to their colour:

| *Channel* | *Colour of the measuring signal and the corresponding measuring range* | *Colour of the target curve and the corresponding measuring range* |
|---|---|---|
| **A** | Yellow (measuring range at the top left of the display area) | Blue (measuring range at the top right of the display area) |
| **B** | Green (measuring range at the bottom left of the display area) | Red (measuring range at the bottom right of the display area) |

**Table 9.3. Colour of the signal curves**




**Figure 9.24. Showing target curves**

When displaying **target curves**, the measuring signal may be exactly on top of the recorded signal for the target curve. To be able to better distinguish the two curves, use the scroll bar on the right side of the display area to vertically shift the measuring curve with regard to the **target curve**. Select the respective channel beforehand using the **Channel A** and **Channel B** buttons in the operating area.

**Saving target curves:**

To save the displayed **target curve** with all its channel settings to another directory, click on the **Save** button. The file name is retained.




**Deleting target curves:**

To delete the displayed **target curve**, click on the **Delete** button.



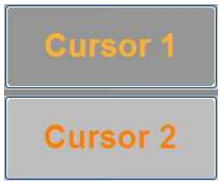

A dialogue appears asking you to confirm this deletion. To delete the **target curve** permanently, click on the **Yes** button. The measurements parametrised with the parameters of the **target curve** continue to run.

**Freeze frame:**

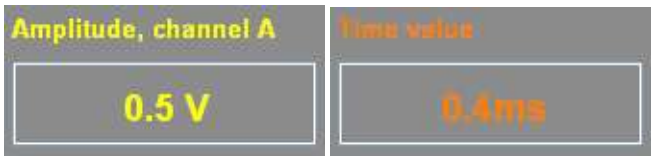
To stop the cyclic repetition of the measurement and display the last diagram, click on the **Freeze frame** button. Unlike the **Freeze frame** function, it is not possible to perform an evaluation without using the **Target curve** function.

## 9.3.8. Freeze frame

To stop the cyclic repetition of the measurement and display the last diagram, click on the **Freeze frame** button. Unlike the **Freeze frame** function, it is not possible to perform an evaluation without using the **Target curve** function. In addition, the **Cursor 1** and **Cursor 2** buttons appear in the **function area**.




Use the mouse or the touchscreen to move the respective cursor ( ) in the display area along the recorded **signal curve**. The current position is displayed in the amplitude and time function area:




The orange arrow buttons in the **operating area** can be used to position the marking cursor more precisely in the grid.




If both cursors are active, the difference in amplitude and time between the cursor positions is shown in the function area instead of amplitude and time.

**Note:**

The amplitude values and the difference in amplitude in the function area are shown in the colour of the respective channel. If both channels are active, the values are shown one below the other. The time value is the same for both channels.

# 9.4. Accepting measured values from diagnostic mode

It is possible to transfer measured values from **Diagnostic mode** to **Test instruments mode**.

**Note:**

The **Measured value diagnosis** function is only available if measured values have been selected in **Diagnostic mode**.

**Reference:**

see also **Diagnostic start-up** chapter

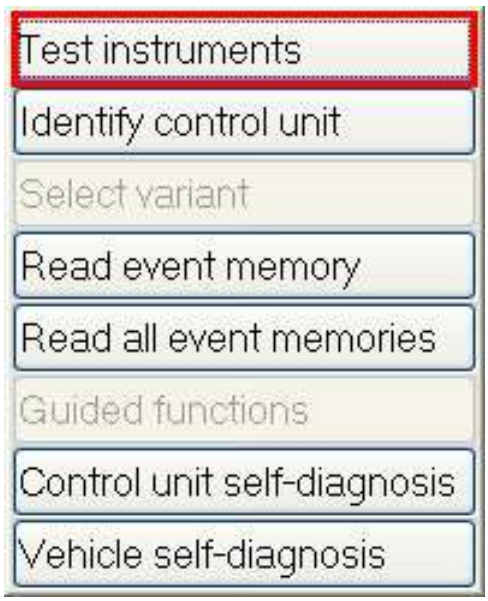
**Default settings in diagnostic mode:**

Click on the **Diagnosis** button to activate the corresponding mode. The desired control unit must then be selected.

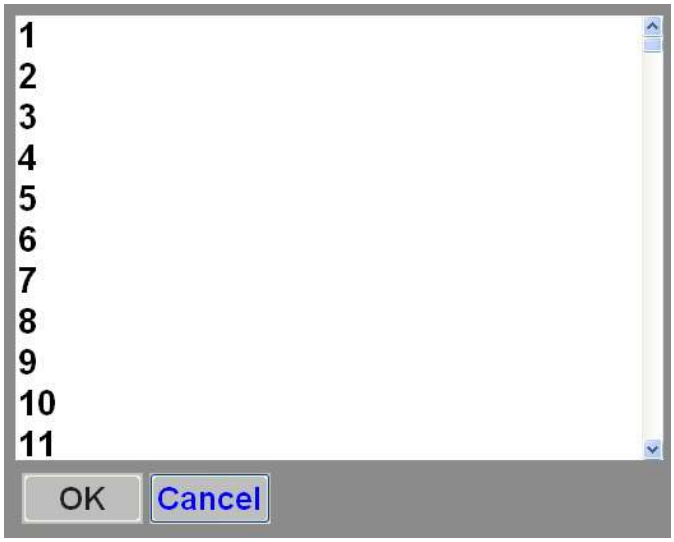
**Reference:**

See also chapter **Diagnostic start-up**

Select the control unit for which measured values are to be accepted. Then right-click on the current selection. The following group of buttons is displayed, from which the **Test instruments** button needs to be selected:




A window is opened for selecting a measured value block (KWP control units) or individual measured values (UDS control units). After selecting the measured value block or individual measured values (a maximum of four measured values can be displayed), confirm the selection by clicking on the OK button.




After confirmation, **Test instruments mode** is automatically set. The **Measured value diagnosis** function is available for both the **Multimeter** function and the **Oscilloscope** function.




After clicking on the **Measured value diagnosis** button, the first four measured values are shown in the display area.

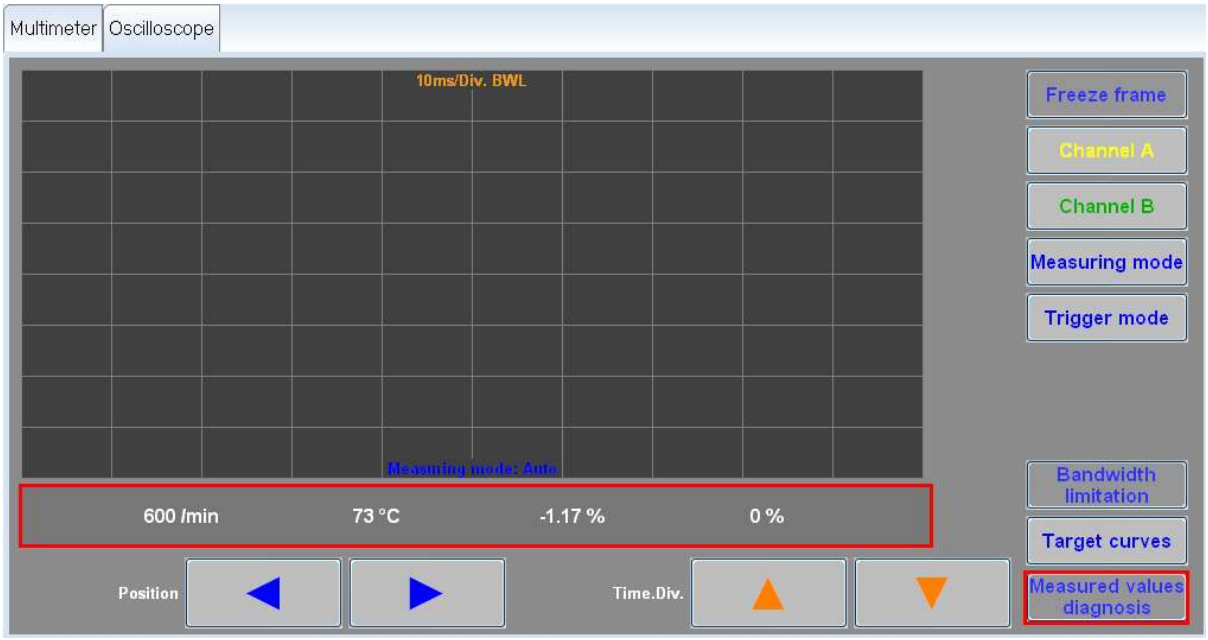



**Figure 9.25. Displaying diagnostic measured values on the multimeter**

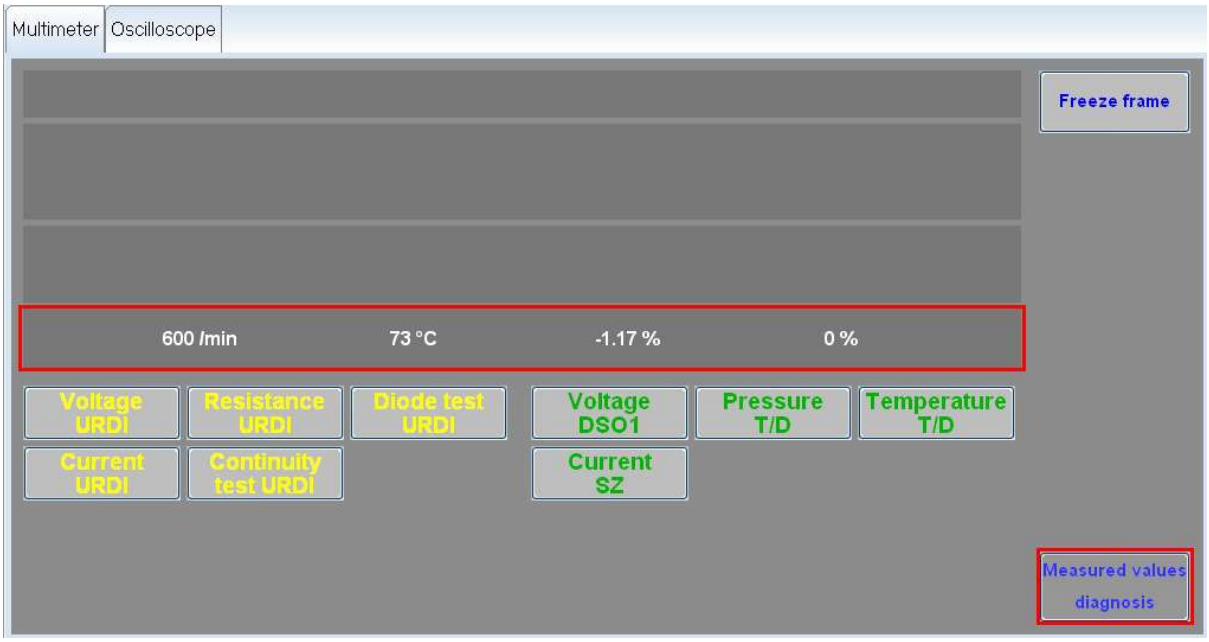



**Figure 9.26. Displaying diagnostic measured values on the oscilloscope**

# 9.5. Test instrument administration

In **Admin mode**, special **test instrument** settings can be configured. Under the **Test instruments** and **Test instruments action** tabs, the following actions are available for selection from the pop-up menu:

**GDI device driver:**

The corresponding GDI driver for the test instrument connected can be configured here. If the desired driver is not displayed on the pop-up menu, check if the corresponding device driver was installed correctly.

**Physical units:**

This functions allows physical units to be defined for the various measured values of the stand-alone test instruments. However, the defined settings are not taken into account in guided fault finding. The following physical units can be configured:

- **Voltage:** V (volt)
- **Current:** A (ampere)
- **Resistance:** ohm
- **Pressure:** bar (bar), $lb/in^2$ (pound per square inch)
- **Temperature:** °C (degrees Celsius), °F (degrees Fahrenheit)

**Signal generator:**

The signal generator function allows settings to be configured for the duration and pitch of the signal for the continuity test. A frequency between 0 and 4000 Hz can be selected for the acoustic signal.

**Test instruments, GDI components:**

The version numbers of the GDI components used can be viewed here.

**Self-test:**

The self-test action allows the self-test integrated in the test instrument to be started. The result is shown in the form of **OK/not OK** indication on the screen.

**Target curve functionality:**

After clicking on the target curve function action, perform user authentication to activate **Expert mode** for the **Oscilloscope target curve** function. A dialogue appears prompting you to enter the location ID and the corresponding password in the text field.

Once this information has been entered correctly, the **Activate** and **Cancel** buttons will appear. If the target curve function has already been activated, the **Deactivate** button appears instead of the **Activate** button.

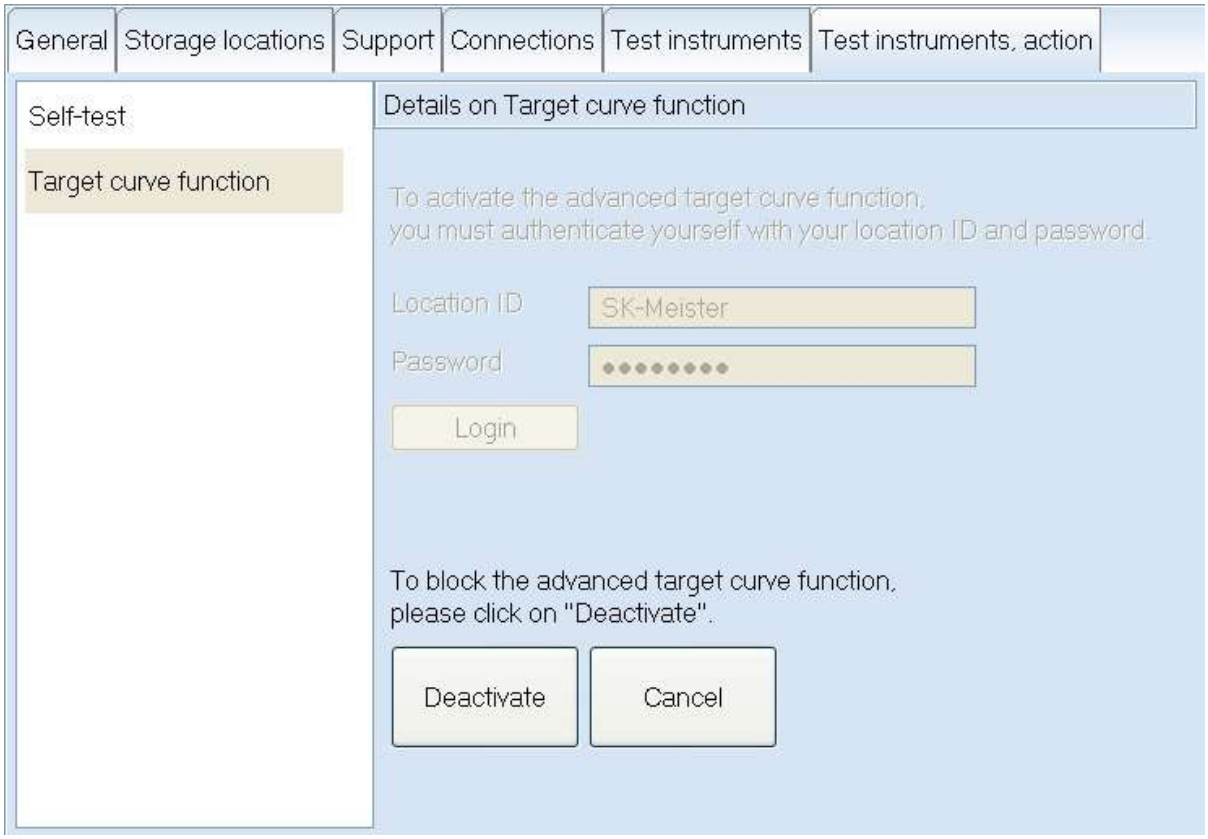



**Figure 9.27. Activating expert mode in the target curves function**

**⇨ Reference:**

See also chapter **Target curves function**

# Chapter 10. Virtual keyboard manual

## 10.1. Installation

Administrator rights are required for the installation. The installer for the "Virtual keyboard" can be opened without graphical user interface. The parameters supported are listed in Table 10.1, “Installation parameters” .

| | |
|---|---|
| /VERYSILENT | Suppresses the graphical user interface |
| /DIR=*directory* | The directory to which the "virtual keyboard" is to be installed |
| /UNINSTALL | Uninstallation of the "virtual keyboard" |

**Table 10.1. Installation parameters**

Table 10.2, “Installer return values” includes the return values of the installer.

| | |
|---|---|
| 0 | No errors |
| 1 | No administrator rights |
| 7 | There is not sufficient memory capacity on the drive |

**Table 10.2. Installer return values**

During the installation process, a system service will be installed that starts the "virtual keyboard". This service also monitors whether the "virtual keyboard" is running. If it is terminated by an application, the service restarts the "virtual keyboard".

## 10.2. Software

The "virtual keyboard" runs on Windows XP with Service Pack 2 installed. It emulates a normal keyboard connected via USB or PS/2. The "virtual keyboard" program sends keyboard events to the active application in the same way as by a real keyboard.

The "virtual keyboard" starts as soon as the login screen appears. The keyboard can be displayed or hidden via an icon on the title bar (see Figure 10.1, “Title bar icon”) of the active application.



**Figure 10.1. Title bar icon**

### 10.2.1. User interface

If "Virtual keyboard" is displayed, the keyboard is always visible. It is transparent, allowing applications behind the keyboard to be read. The "virtual keyboard" has no title bar, no system menu and no Minimise and Maximise buttons. Instead, it has I+ME keys that can be used to set the size, type (numeric or normal keyboard) and transparency of the keyboard.

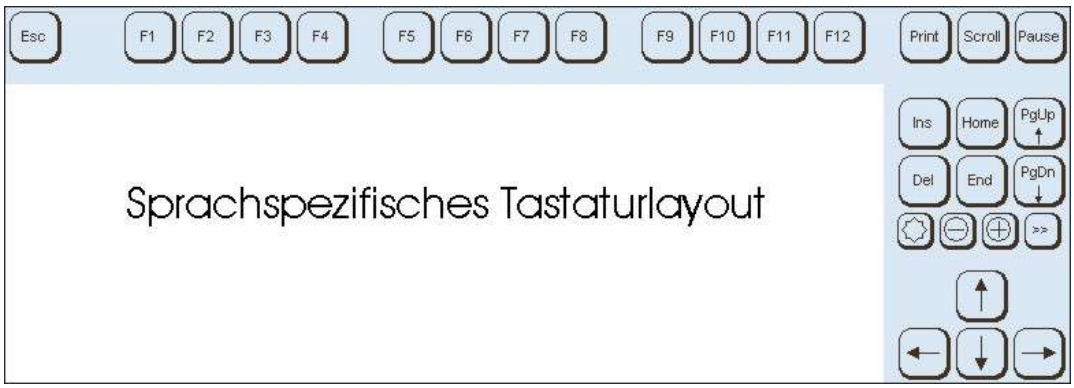



**Figure 10.2. Keyboard layout**

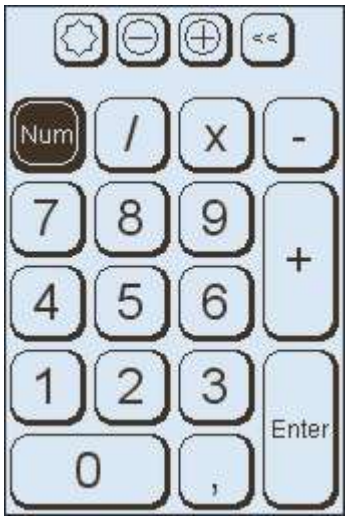



**Figure 10.3. Numeric keyboard**

The I+ME keys have the following meaning:

| | |
|---|---|
|  | Shows the settings dialogue |
|  | Reduces the size of the keyboard |
|  | Increases the size of the keyboard |
|  | Displayed components on the numeric keyboard |
|  | Hiding the numeric keyboard |

**Table 10.3. I+ME keys**

## 10.2.1.1. Size of keyboard

Two keys can be used to scale the keyboard. The size of the keys and characters is adapted automatically when the size of the keyboard is changed. It is not possible to increase the size of the keyboard beyond the size of the screen.

If you try to move the keyboard out of the screen area, it is pushed back. After hiding and re-displaying the keyboard, it assumes its last size and position.

The set size of the "virtual keyboard" is saved, not its current position, however. That means the "virtual keyboard" is displayed at the bottom in the centre in the size last used when the user displays the keyboard for the first time after a restart.

### 10.2.1.2. Special keys

On pressing a special key (SHIFT, STRG,...), this key is highlighted. This marking is removed again the next time a normal key is pressed.

The currently active characters are displayed on the keys and pressing a special key adapts the layout accordingly. The different display options are shown in Table 10.4, “Changing characters” using the "<" key as an example.

|  |  |  |
|---|---|---|
| Normal | After pressing SHIFT | After pressing ALTGR |

**Table 10.4. Changing characters**

### 10.2.1.3. Settings dialogue

The settings dialogue can be used to define the transparency of the "virtual keyboard". The possible values are in the range between 0% (no transparency) and 90% (almost complete transparency). The keyboard's transparency changes while the scroll bar is moved.

Press the OK button to apply the change. Press the Reset key to restore the setting that was active on opening the window.

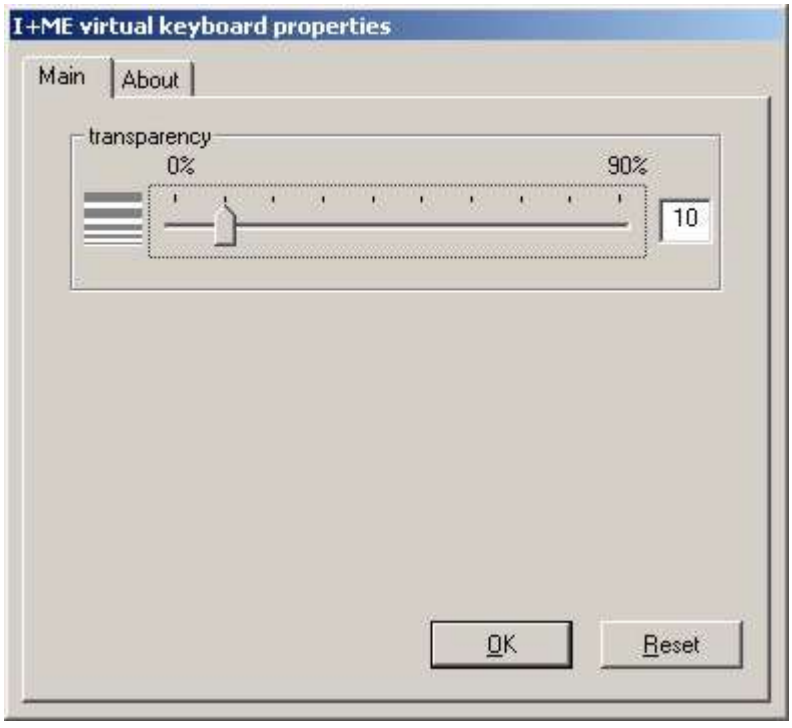



**Figure 10.4. Settings dialogue**

## 10.2.2. Languages

The keyboard layout changes, depending on the input language that is currently active. If a language is not supported, the US American keyboard is displayed.

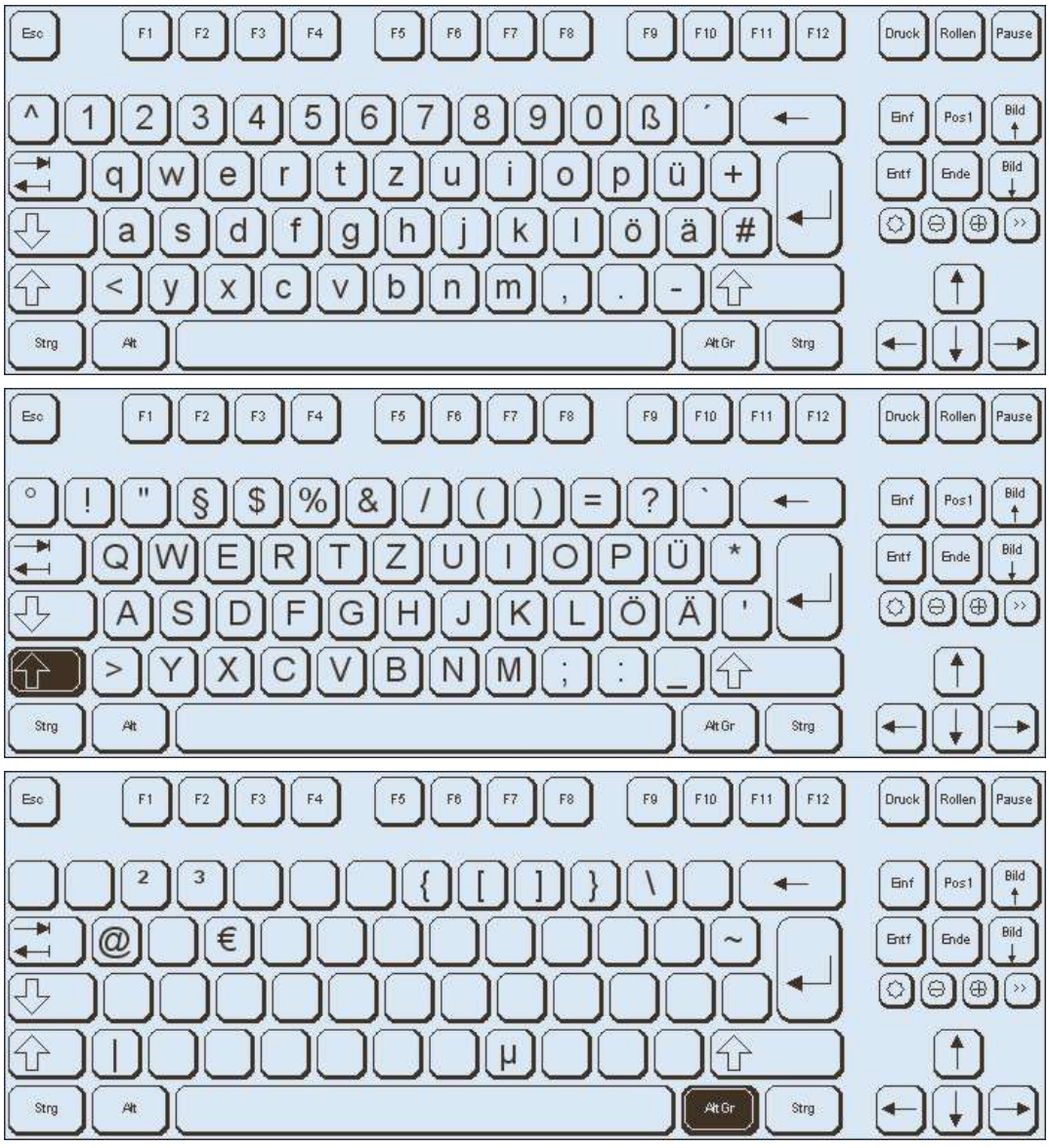
The following languages are supported:

| | | |
|---|---|---|
| Bulgarian | Chinese (Simplified) | Danish |
| German (Germany) | English (UK) | English (USA) |
| Farsi | Finnish | French (France) |
| Greek | Italian (Italy) | Japanese |
| Korean | Croatian | Dutch |
| Polish (programmers) | Portuguese | Rumanian |
| Russian | Swedish | Slovak (QWERTY) |
| Slovenian | Spanish | Taiwan (Bopomofo) |
| Taiwan (ChaJei) | Thai (Kedmanee) | Czech |
| Turkish (Turkish Q) | Hungarian | |

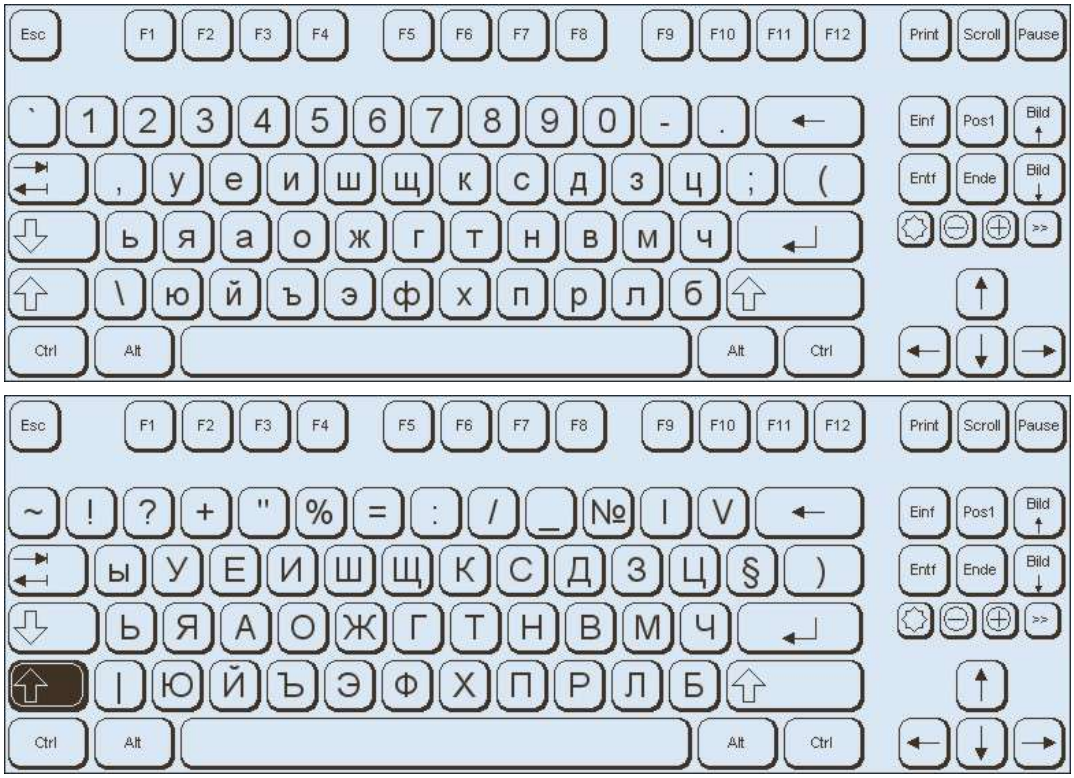
**Table 10.5. Languages supported**

# 10.2.3. Keyboard layouts

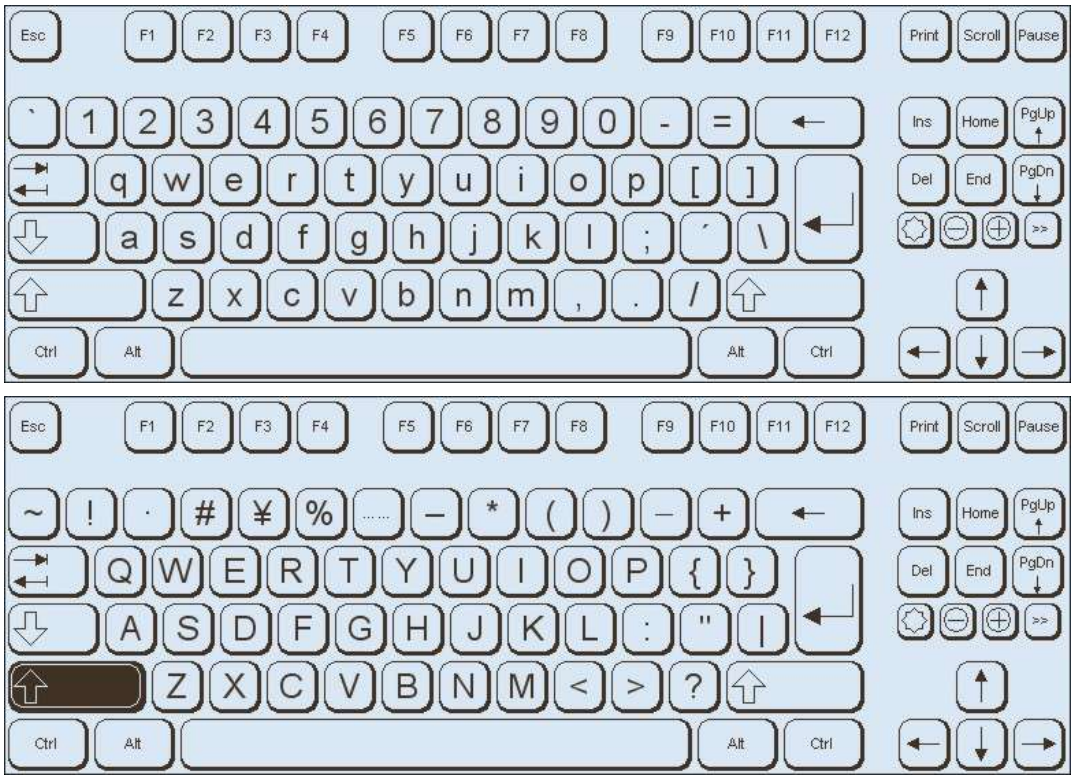
## 10.2.3.1. German



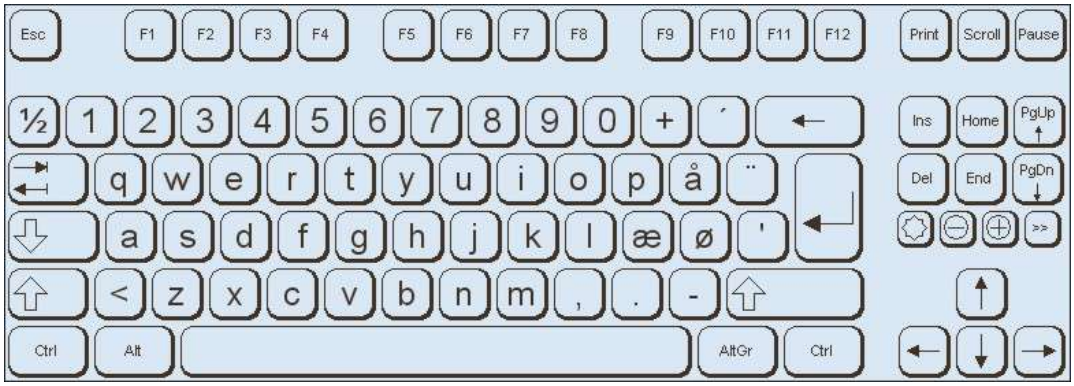
## 10.2.3.2. Bulgarian

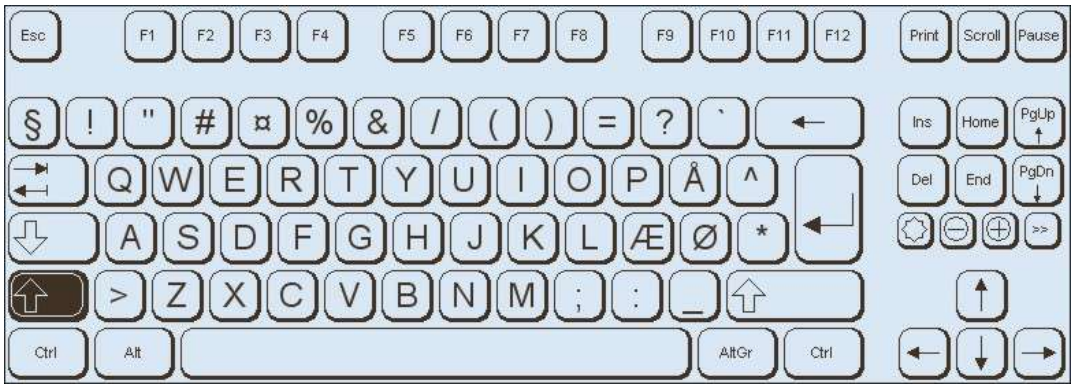

Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
` 1 2 3 4 5 6 7 8 9 0 - . Einf Pos1 Bild
, у е и ш щ к с д з ц ; ( Entf Ende Bild
ь я а о ж г т н в м ч
\ ю й ъ э ф х п р л б
Ctrl Alt Alt Ctrl
Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
~ ! ? + " % = : / _ № I V Einf Pos1 Bild
ы У Е И Ш Щ К С Д З Ц § ) Entf Ende Bild
Ь Я А О Ж Г Т Н В М Ч
| Ю Й Ъ Э Ф Х П Р Л Б
Ctrl Alt Alt Ctrl

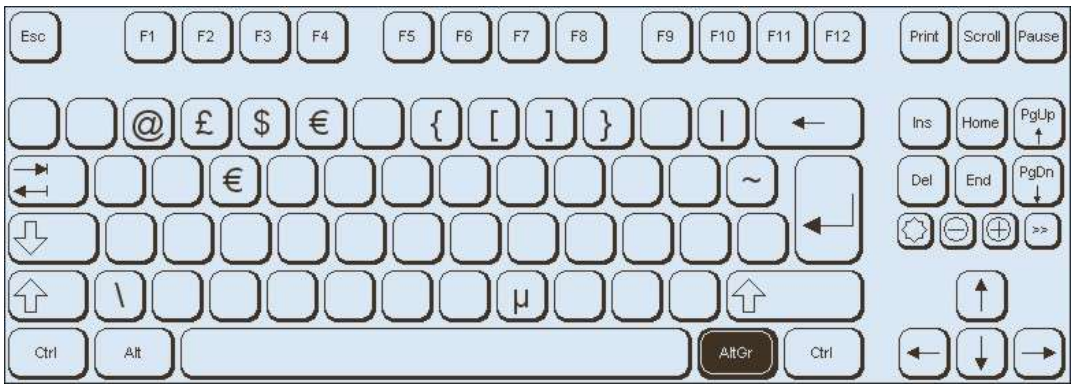
## 10.2.3.3. Chinese Simplified


Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
` 1 2 3 4 5 6 7 8 9 0 - = Ins Home PgUp
q w e r t y u i o p [ ] Del End PgDn
a s d f g h j k l ; ´ \
z x c v b n m , . /
Ctrl Alt Alt Ctrl
Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
~ ! · # ¥ % …… — * ( ) — + Ins Home PgUp
Q W E R T Y U I O P { } Del End PgDn
A S D F G H J K L : " |
Z X C V B N M < > ?
Ctrl Alt Alt Ctrl

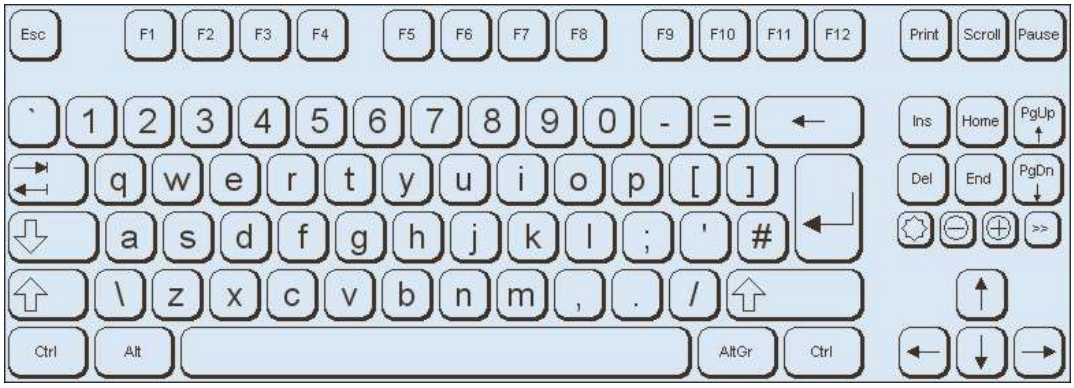
## 10.2.3.4. Danish

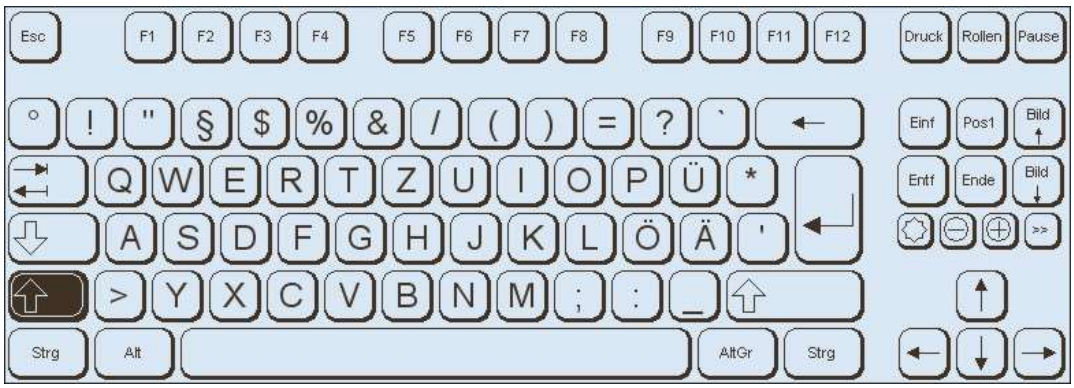

Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
½ 1 2 3 4 5 6 7 8 9 0 + ´ ← Ins Home PgUp
q w e r t y u i o p å ¨ Del End PgDn
a s d f g h j k l æ ø ' >>
< z x c v b n m , . - Ctrl Alt AltGr Ctrl

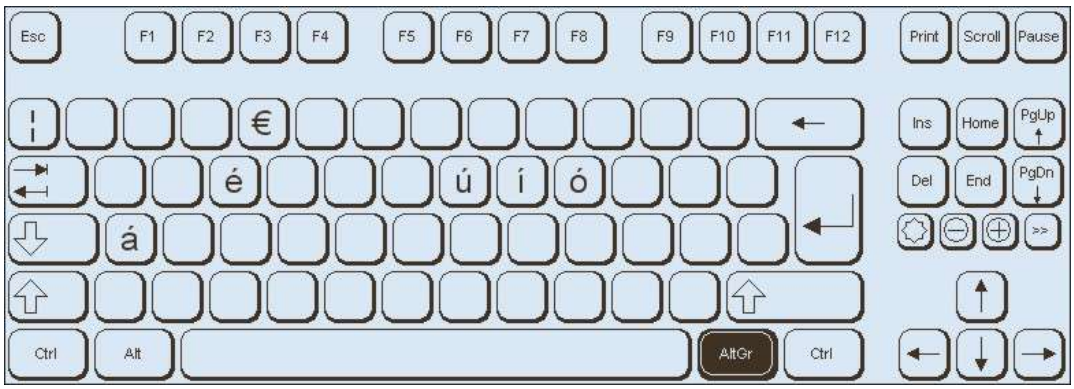

Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
§ ! " # ¤ % & / ( ) = ? ` ← Ins Home PgUp
Q W E R T Y U I O P Å ^ Del End PgDn
A S D F G H J K L Æ Ø * >>
> Z X C V B N M ; : _ Ctrl Alt AltGr Ctrl

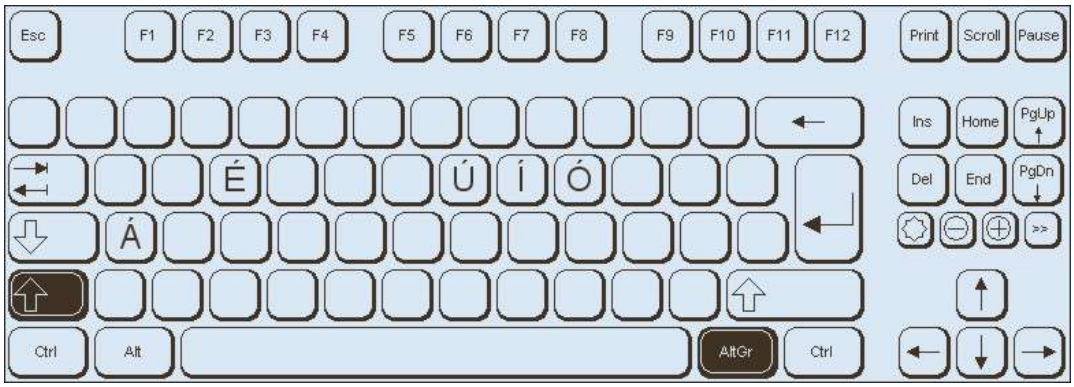



## 10.2.3.5. English GB

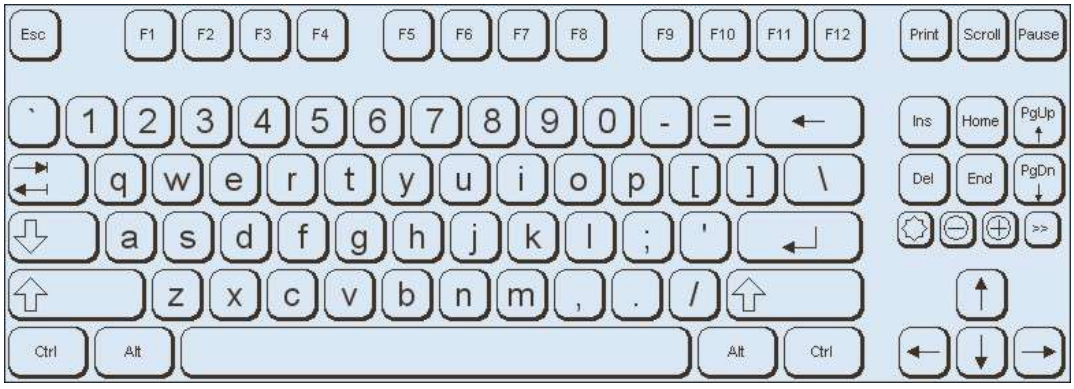

Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
` 1 2 3 4 5 6 7 8 9 0 - = ← Ins Home PgUp
q w e r t y u i o p [ ] Del End PgDn
a s d f g h j k l ; ' # >>
\ z x c v b n m , . / Ctrl Alt AltGr Ctrl

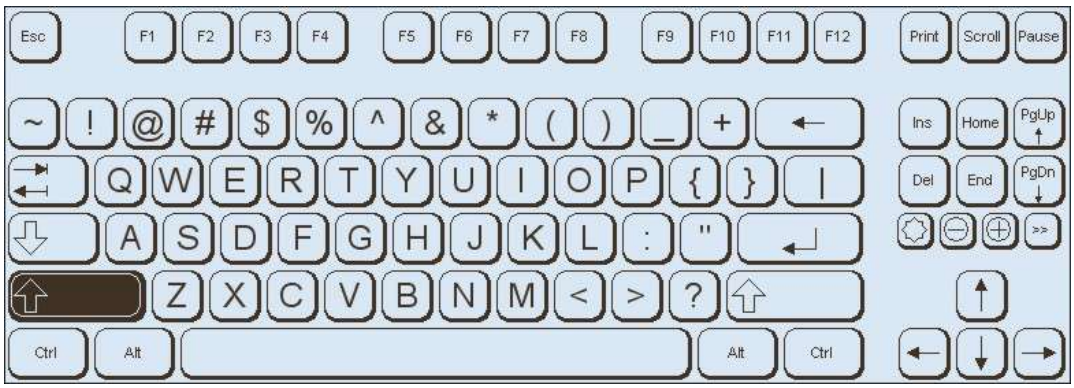

Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Druck Rollen Pause
° ! " § $ % & / ( ) = ? ` Einf Pos1 Bild
Q W E R T Z U I O P Ü * Entf Ende Bild
A S D F G H J K L Ö Ä '
> Y X C V B N M ; : _
Strg Alt AltGr Strg



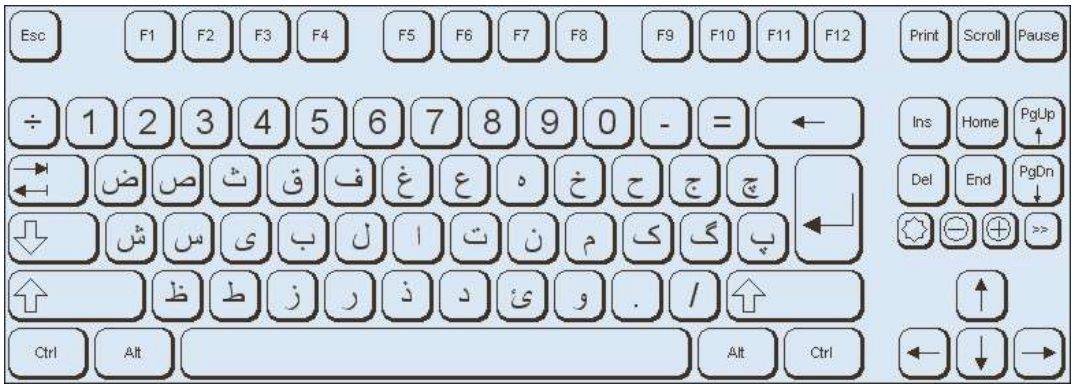



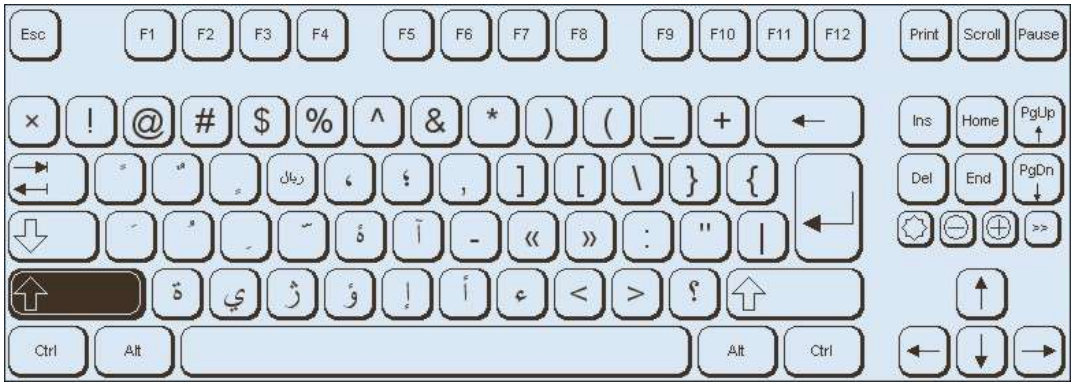

## 10.2.3.6. English USA


Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
` 1 2 3 4 5 6 7 8 9 0 - = Ins Home PgUp
q w e r t y u i o p [ ] \ Del End PgDn
a s d f g h j k l ; '
z x c v b n m , . /
Ctrl Alt Alt Ctrl

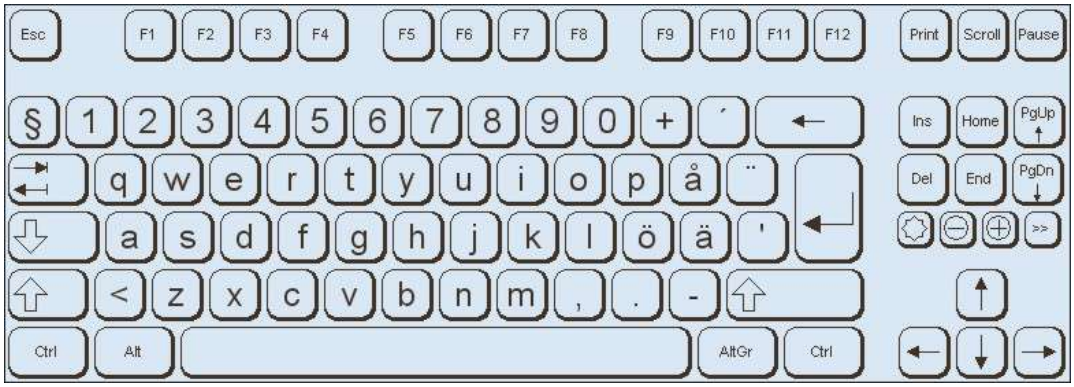

Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
~ ! @ # $ % ^ & * ( ) _ + Ins Home PgUp
Q W E R T Y U I O P { } | Del End PgDn
A S D F G H J K L : " >>
Z X C V B N M < > ?
Ctrl Alt Alt Ctrl

## 10.2.3.7. Farsi


Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
÷ 1 2 3 4 5 6 7 8 9 0 - = Ins Home PgUp
ض ص ث ق ف غ ع ه خ ح ج چ Del End PgDn
ش س ی ب ل ا ت ن م ک گ پ >>
ظ ط ز ر ذ د ئ و . /
Ctrl Alt Alt Ctrl

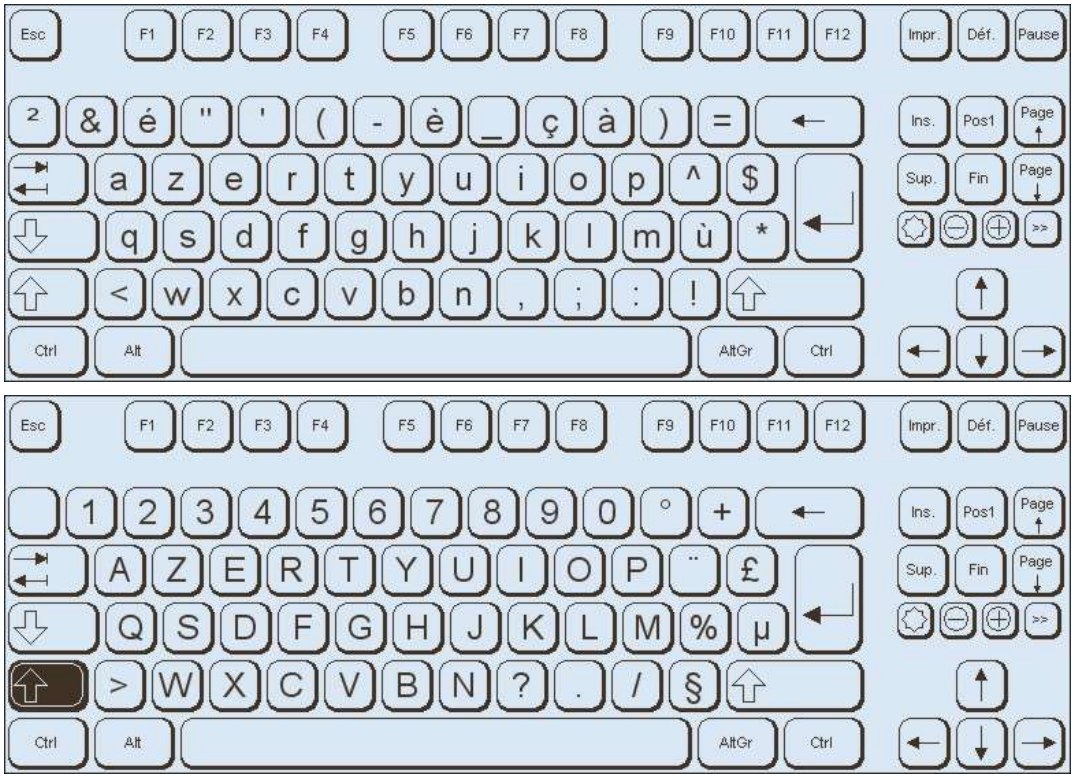


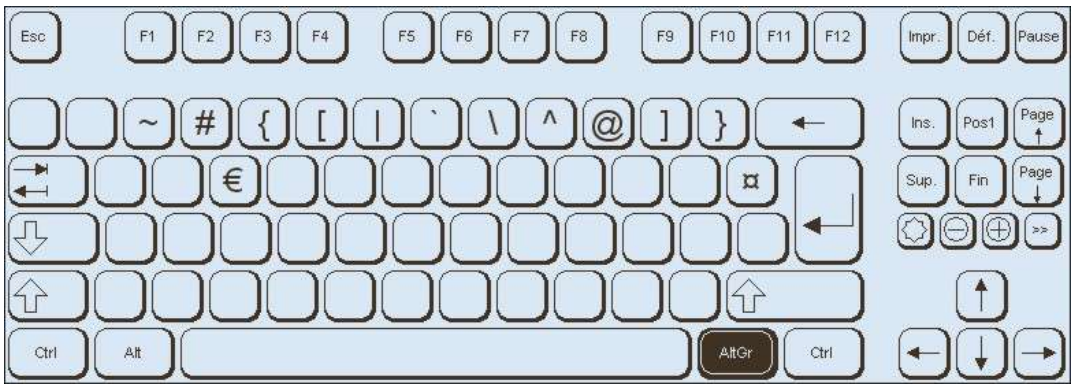

## 10.2.3.8. Finnish


Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
§ 1 2 3 4 5 6 7 8 9 0 + ´ Ins Home PgUp
q w e r t y u i o p å ¨ Del End PgDn
a s d f g h j k l ö ä ' >>
< z x c v b n m , . -
Ctrl Alt AltGr Ctrl

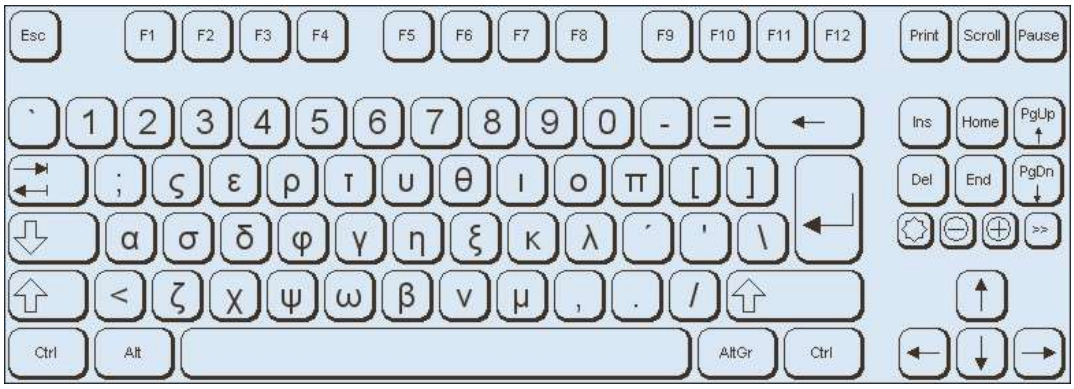

Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
½ ! " # ¤ % & / ( ) = ? ` ←
Ins Home PgUp
Q W E R T Y U I O P Å ^
Del End PgDn
A S D F G H J K L Ö Ä *
> Z X C V B N M ; : _
Ctrl Alt AltGr Ctrl
Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
@ £ $ € { [ ] } \ ←
Ins Home PgUp
€ ~
Del End PgDn
| µ
Ctrl Alt AltGr Ctrl

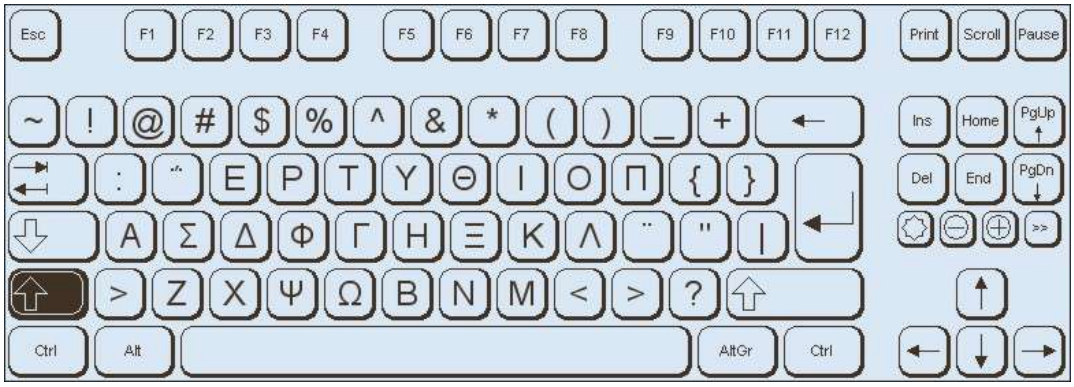
## 10.2.3.9. French

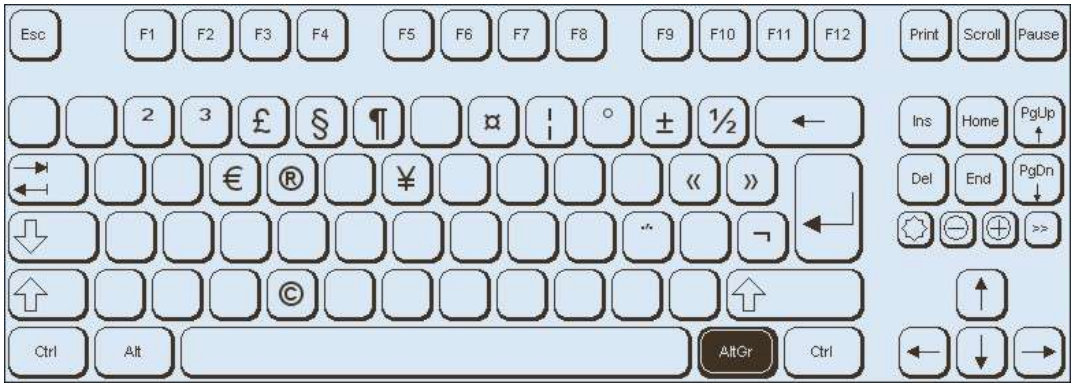

Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Impr. Déf. Pause
² & é " ' ( - è _ ç à ) = ←
Ins. Pos1 Page
a z e r t y u i o p ^ $
Sup. Fin Page
q s d f g h j k l m ù *
< w x c v b n , ; : !
Ctrl Alt AltGr Ctrl
Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Impr. Déf. Pause
1 2 3 4 5 6 7 8 9 0 ° + ←
Ins. Pos1 Page
A Z E R T Y U I O P ¨ £
Sup. Fin Page
Q S D F G H J K L M % µ
> W X C V B N ? . / §
Ctrl Alt AltGr Ctrl



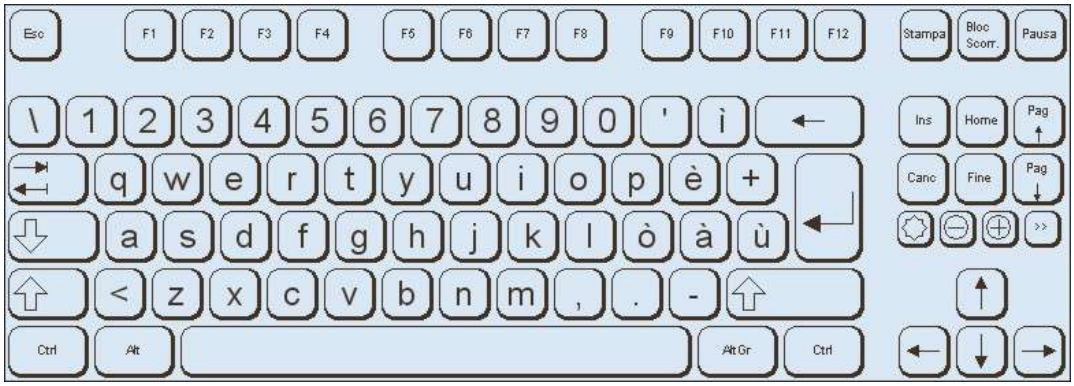

## 10.2.3.10. Greek

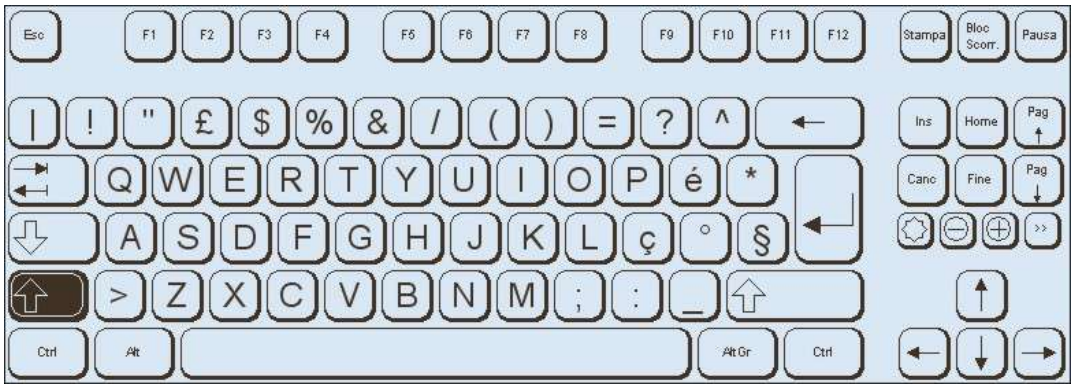

Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
` 1 2 3 4 5 6 7 8 9 0 - = ← Ins Home PgUp
; ς ε ρ τ υ θ ι ο π [ ] Del End PgDn
α σ δ φ γ η ξ κ λ ´ ' \
< ζ χ ψ ω β ν μ , . /
Ctrl Alt AltGr Ctrl

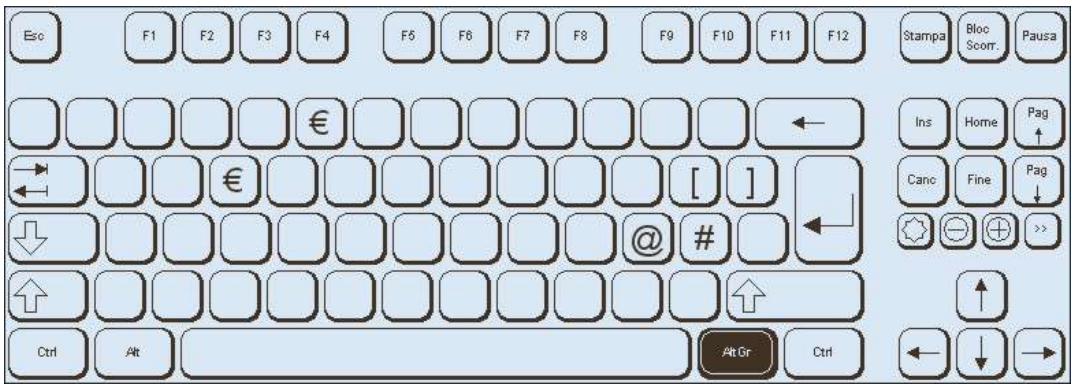

Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
~ ! @ # $ % ^ & * ( ) _ + ← Ins Home PgUp
: ¨ Ε Ρ Τ Υ Θ Ι Ο Π { } Del End PgDn
Α Σ Δ Φ Γ Η Ξ Κ Λ ¨ " |
> Ζ Χ Ψ Ω Β Ν Μ < > ?
Ctrl Alt AltGr Ctrl

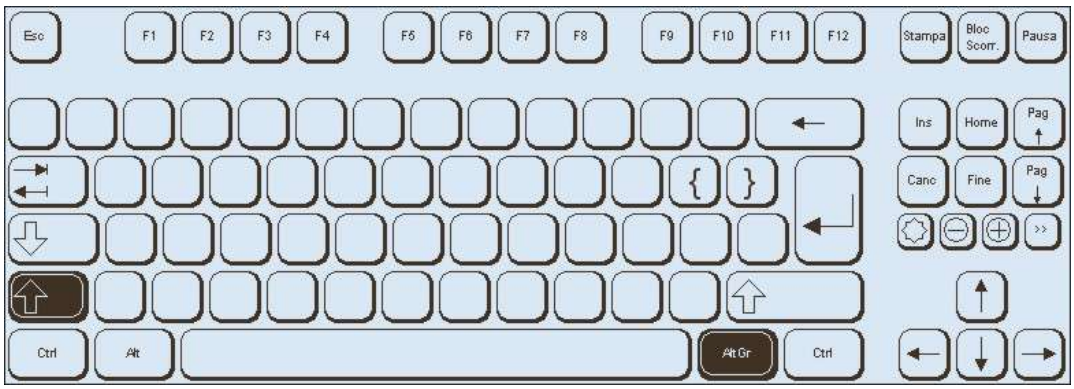


## 10.2.3.11. Italian


Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Stampa Bloc Scorr. Pausa
\ 1 2 3 4 5 6 7 8 9 0 ' ì
q w e r t y u i o p è +
a s d f g h j k l ò à ù
< z x c v b n m , . -
Ctrl Alt Alt Gr Ctrl
Ins Home Pag
Canc Fine Pag

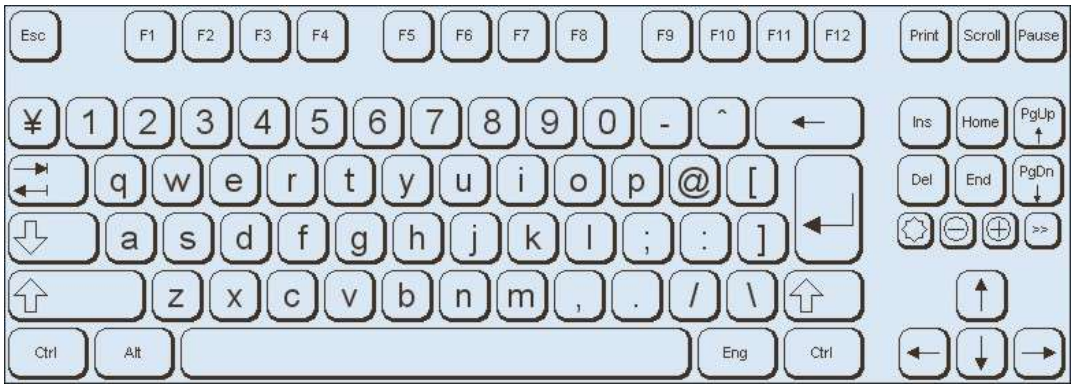

Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Stampa Bloc Scorr. Pausa
| ! " £ $ % & / ( ) = ? ^
Q W E R T Y U I O P é *
A S D F G H J K L ç ° §
> Z X C V B N M ; : _
Ctrl Alt Alt Gr Ctrl
Ins Home Pag
Canc Fine Pag

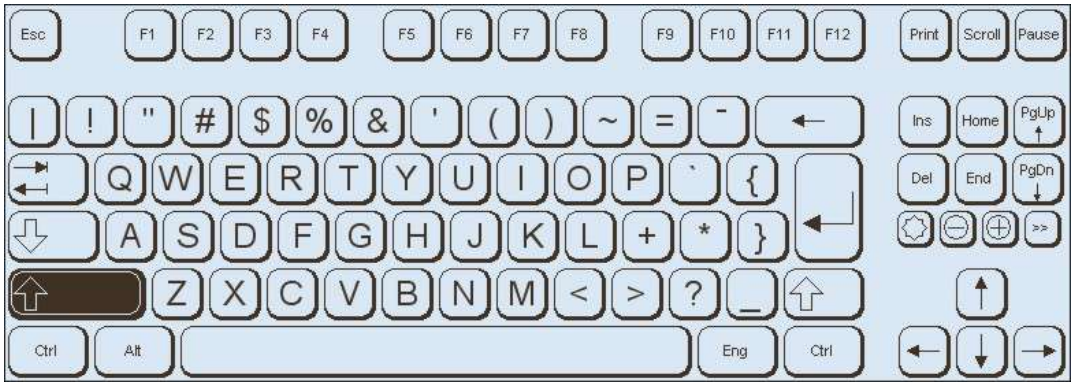


# 10.2.3.12. Japanese

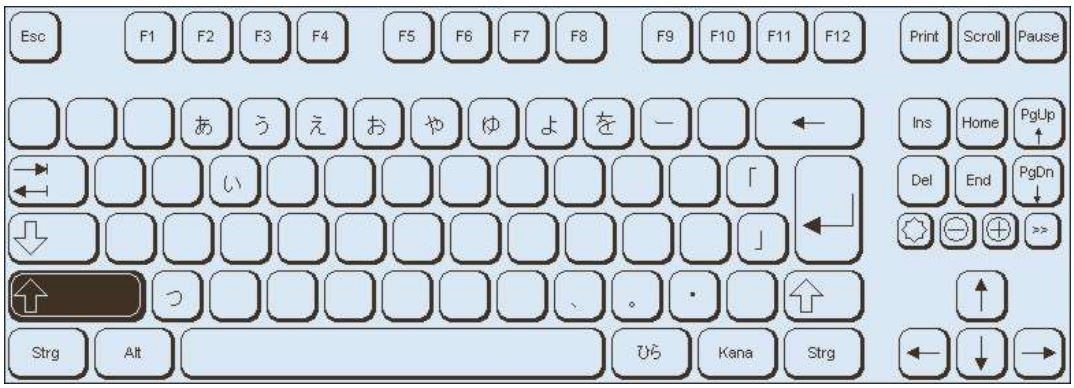
## 10.2.3.12.1. Direct input


Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
¥ 1 2 3 4 5 6 7 8 9 0 - ^
Ins Home PgUp
Del End PgDn
q w e r t y u i o p @ [
a s d f g h j k l ; : ]
z x c v b n m , . / \
Ctrl Alt Eng Ctrl


Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
| ! " # $ % & ' ( ) ~ = ~
Ins Home PgUp
Del End PgDn
Q W E R T Y U I O P ` {
A S D F G H J K L + * }
Z X C V B N M < > ? _
Ctrl Alt Eng Ctrl

## 10.2.3.12.2. Hiragana


Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
ぬ ふ あ う え お や ゆ よ わ ほ へ
Ins Home PgUp
Del End PgDn
た て い す か ん な に ら せ " °
ち と し は き く ま の り れ け む
つ さ そ ひ こ み も ね る め ろ
Strg Alt ひら Kana Strg

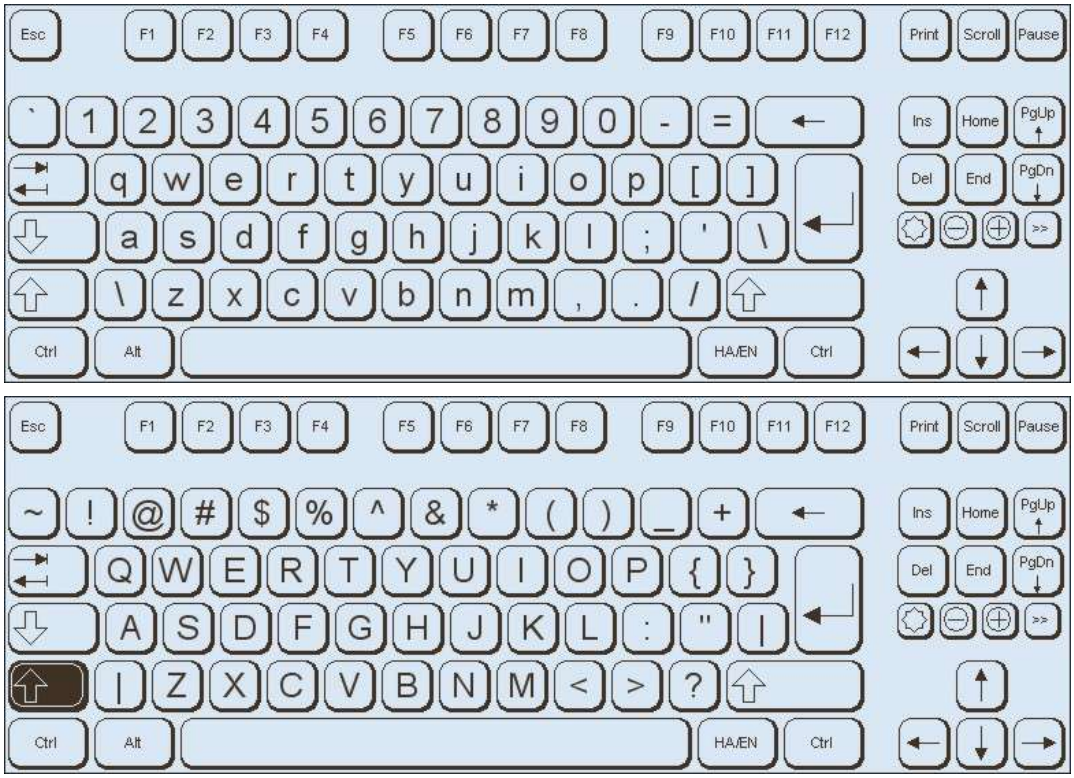


### 10.2.3.12.3. Katakana

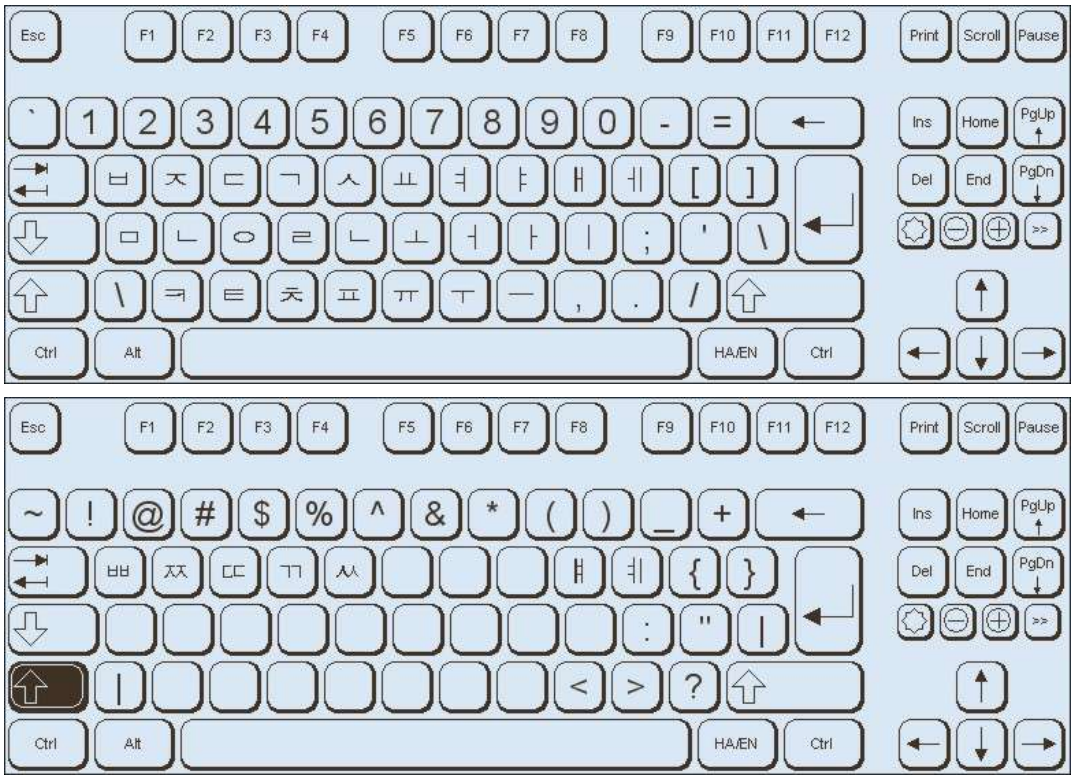



## 10.2.3.13. Korean

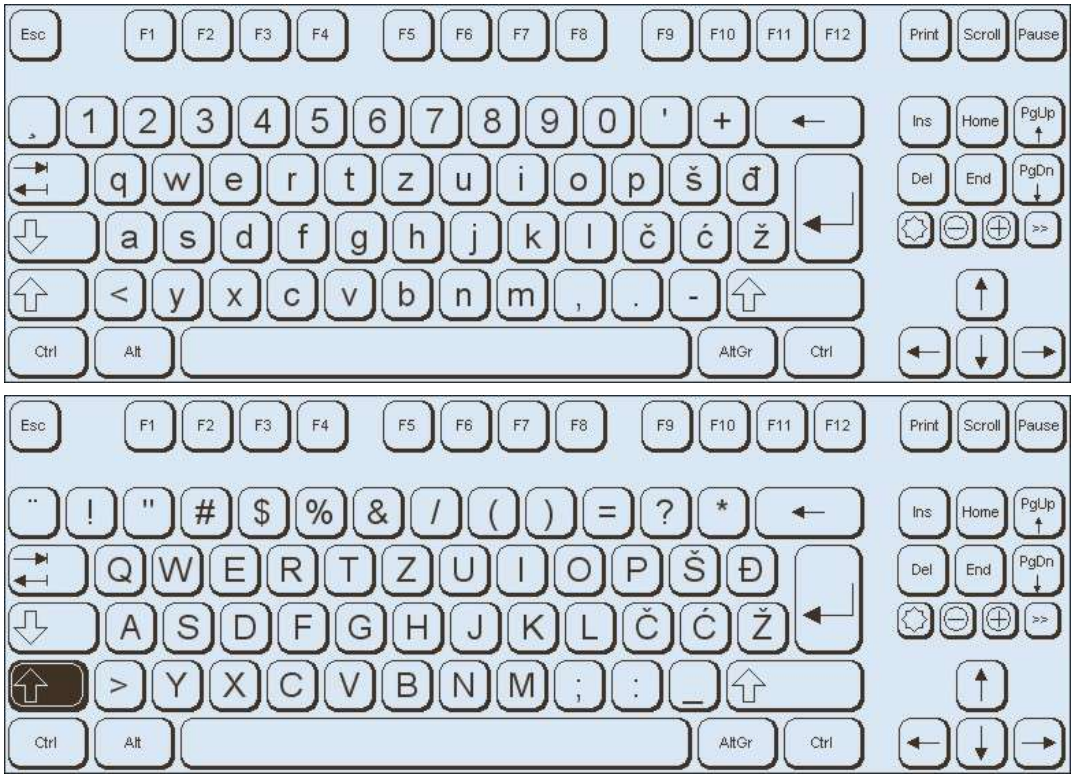
### 10.2.3.13.1. English

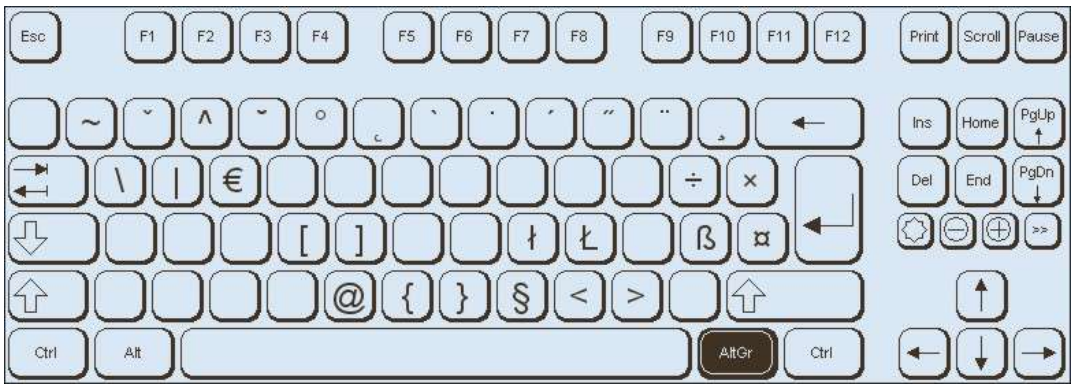


### 10.2.3.13.2. Hangul

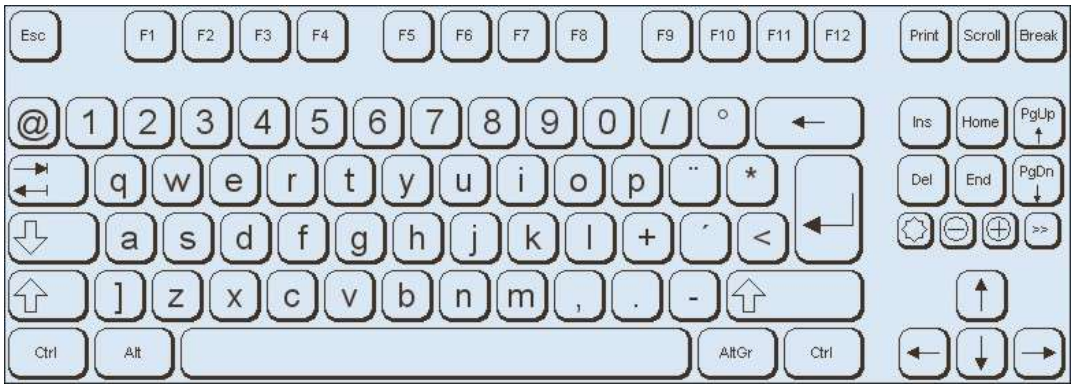


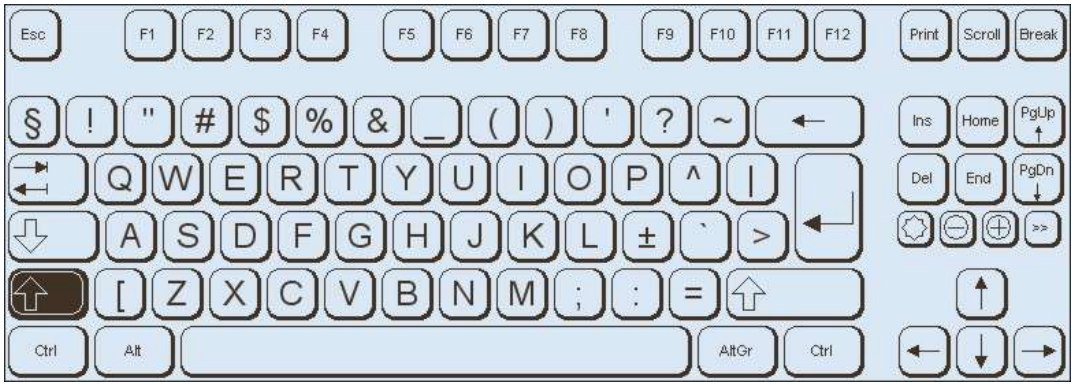

## 10.2.3.14. Croatian

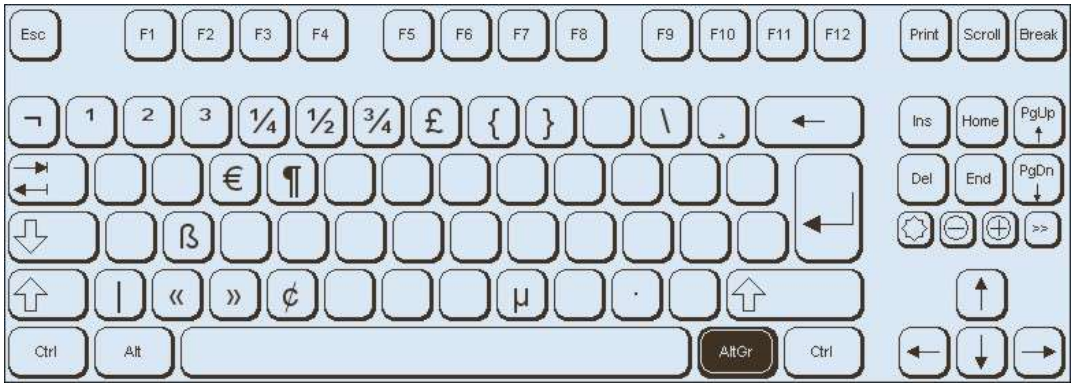




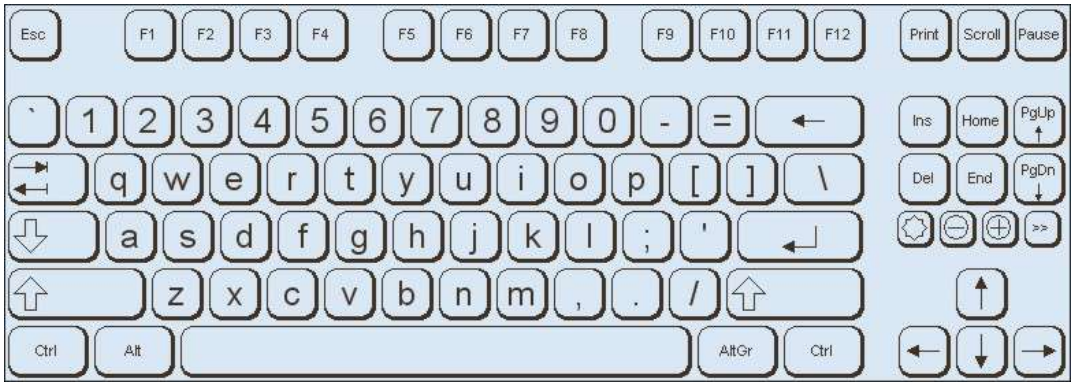

## 10.2.3.15. Dutch

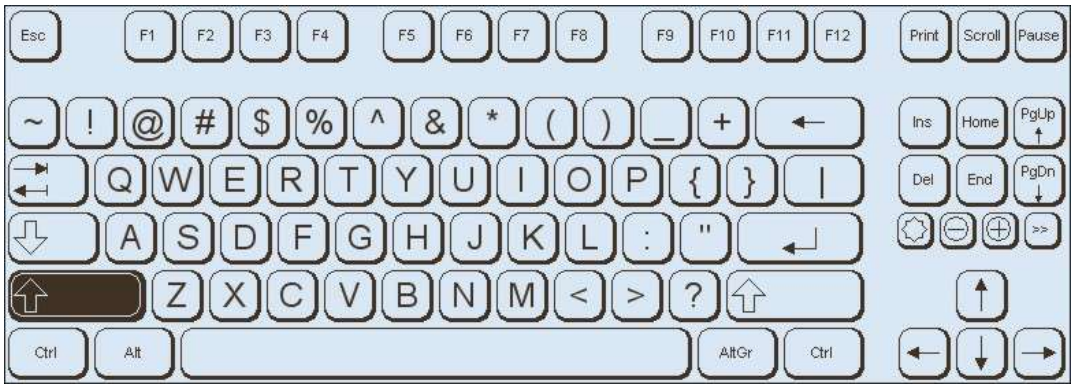


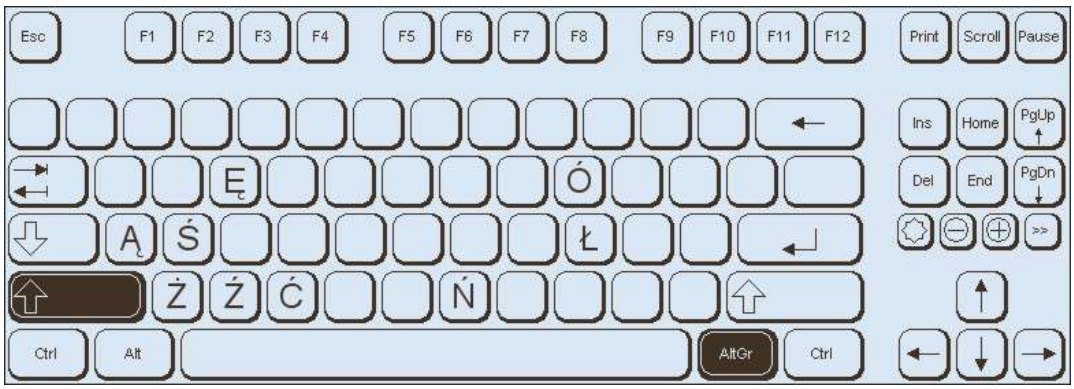



## 10.2.3.16. Polish

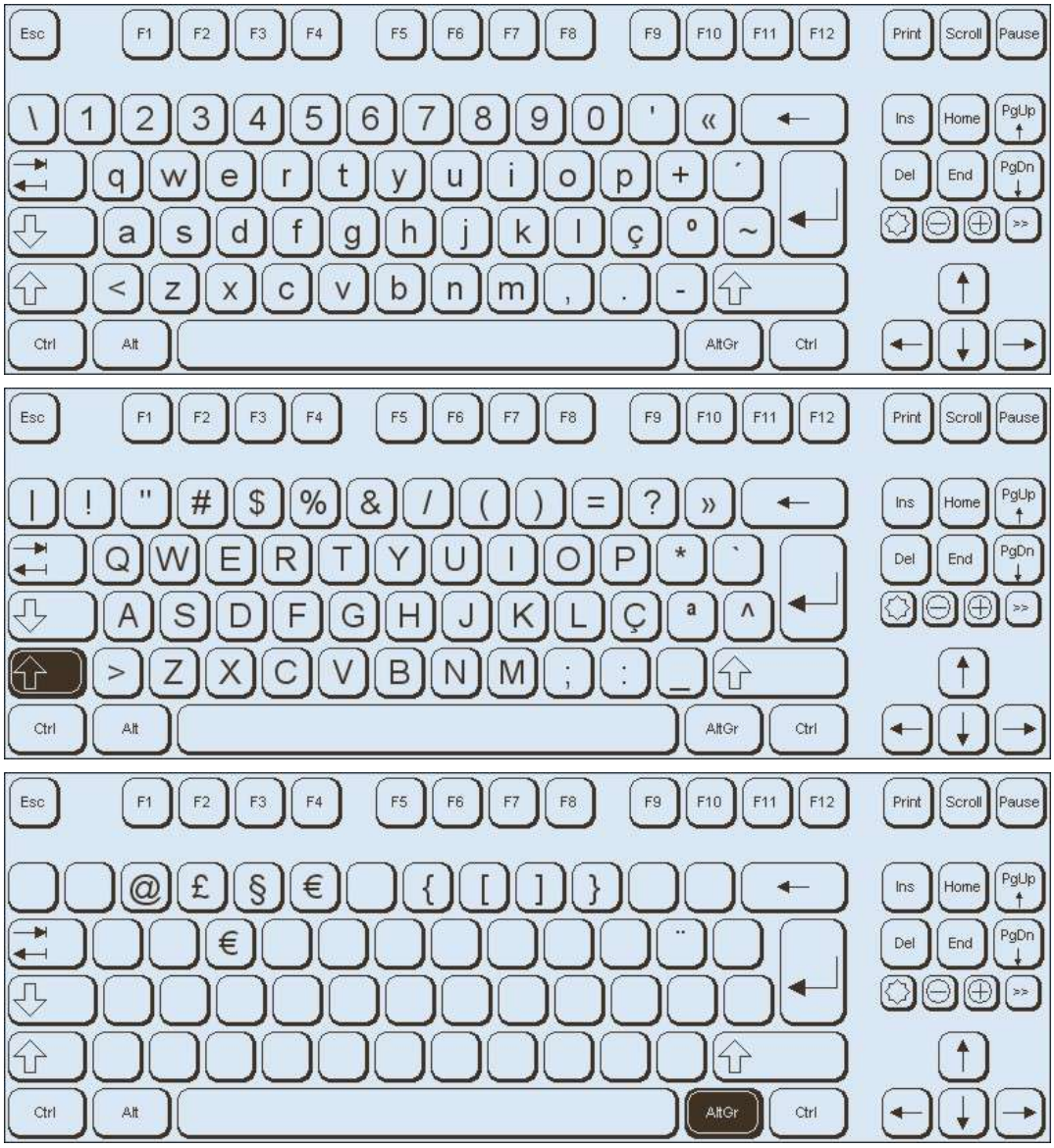

Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
` 1 2 3 4 5 6 7 8 9 0 - = ← Ins Home PgUp
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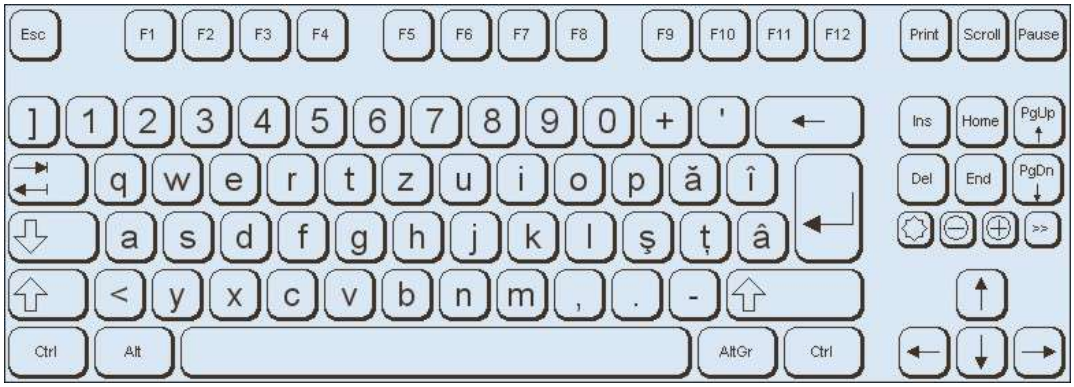


## 10.2.3.17. Portuguese

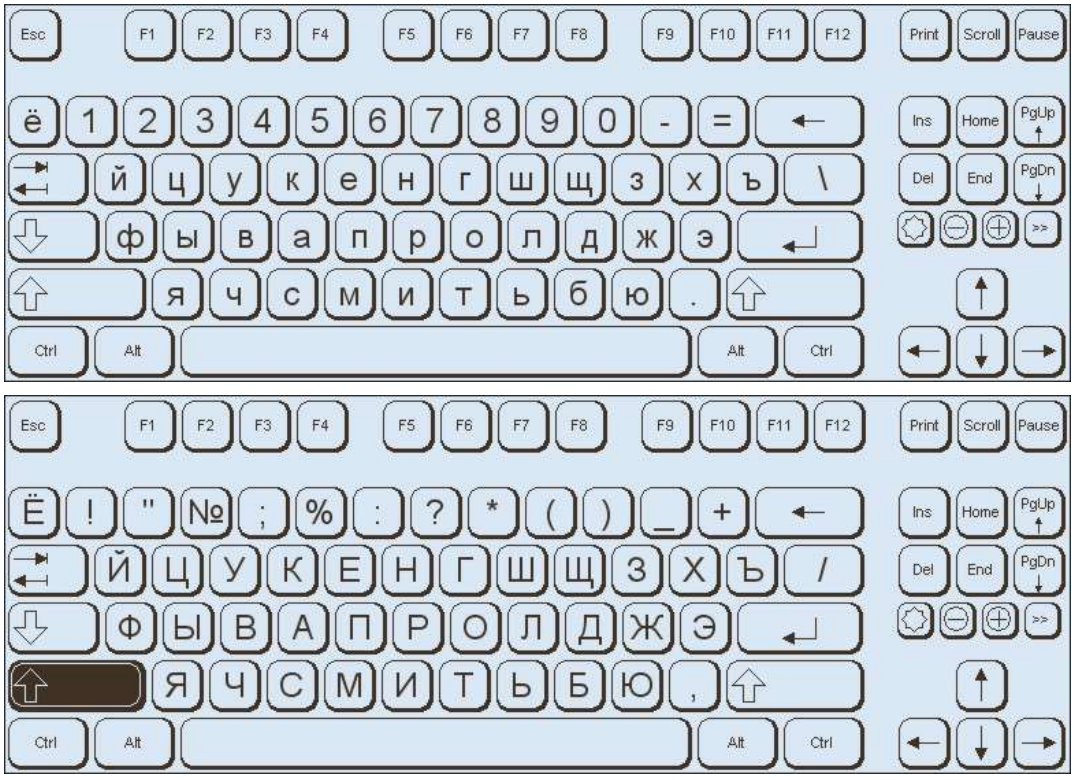

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## 10.2.3.18. Rumanian

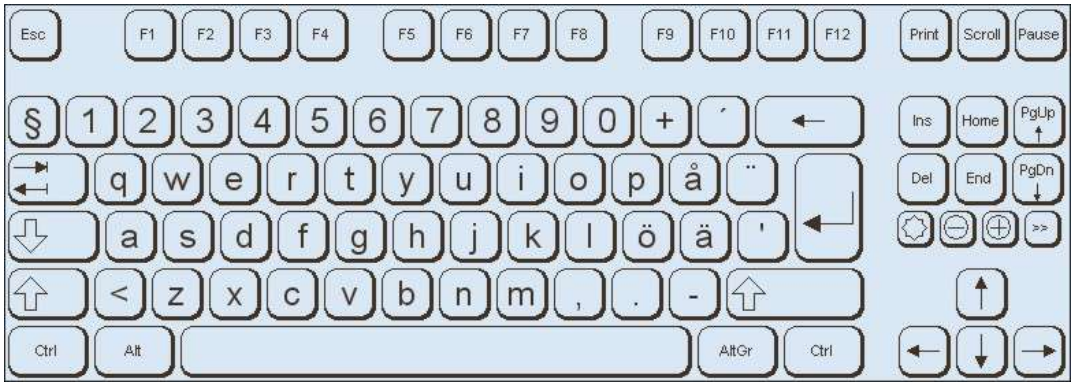

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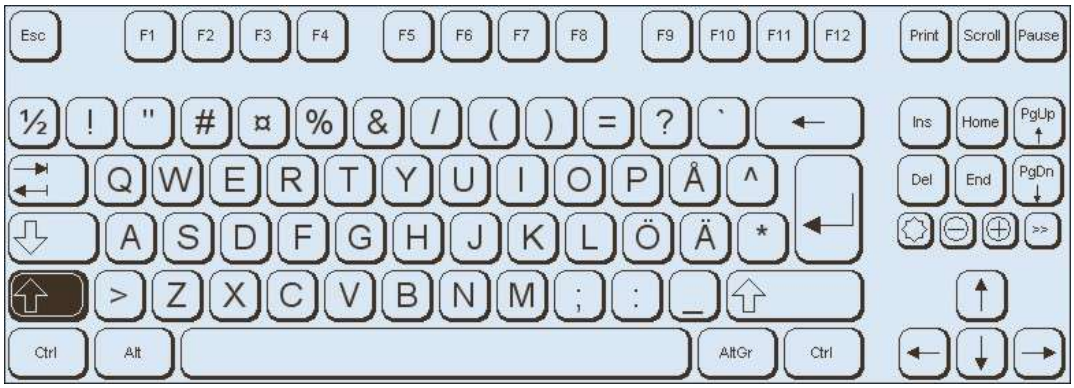

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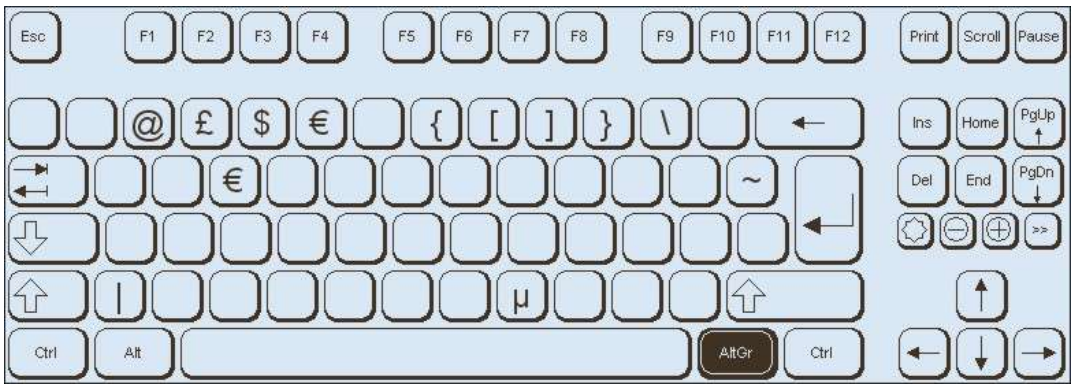
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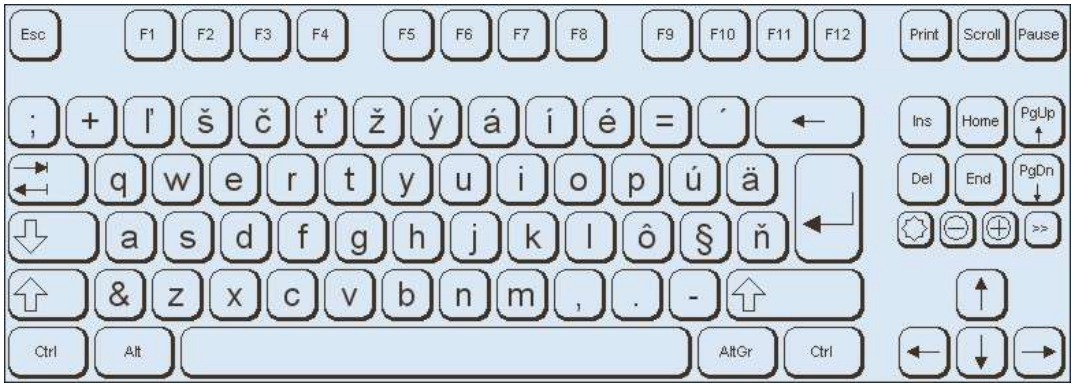
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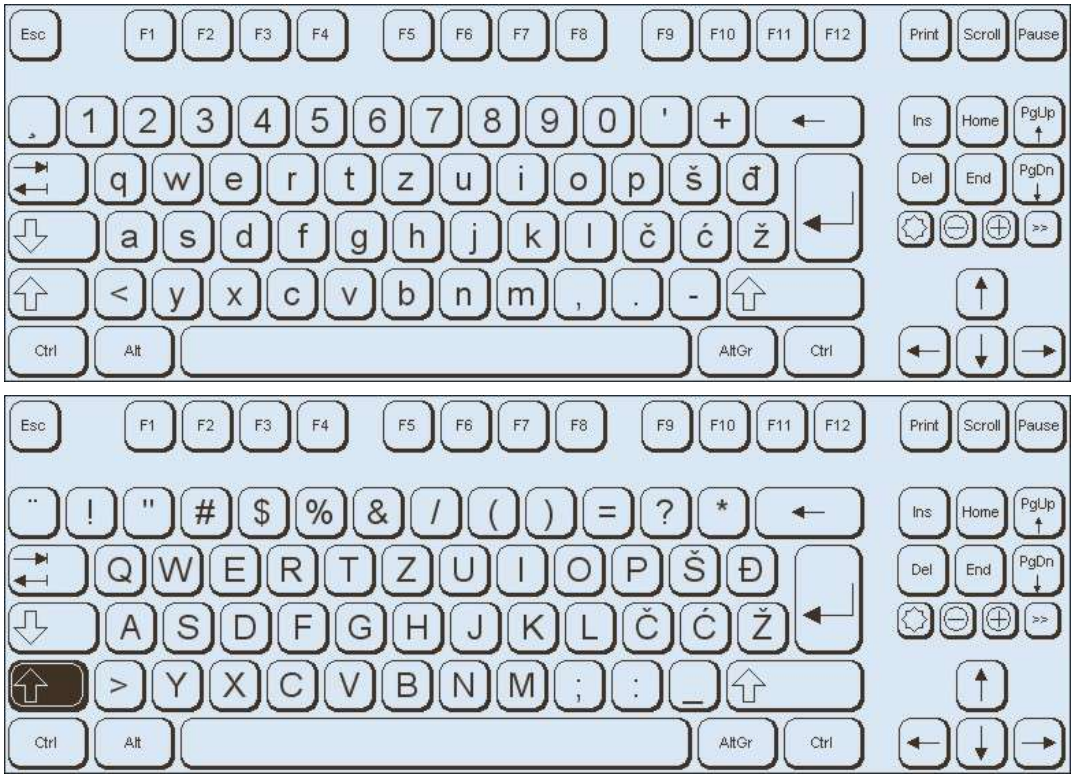


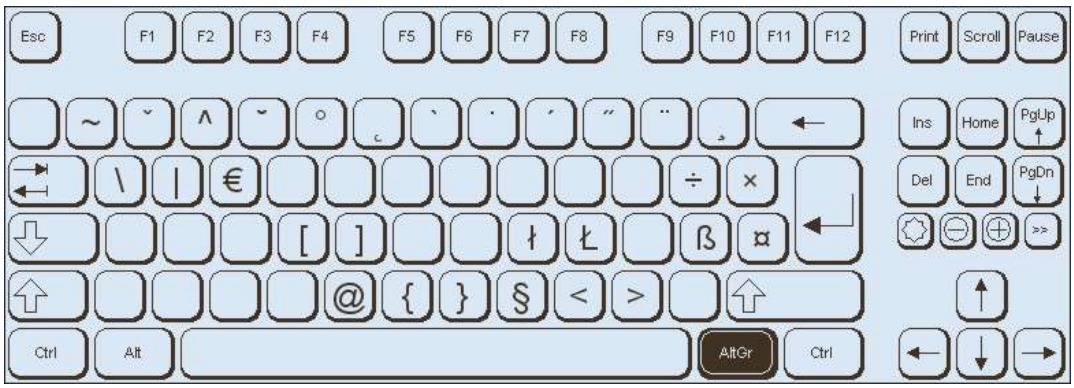

## 10.2.3.21. Slovak


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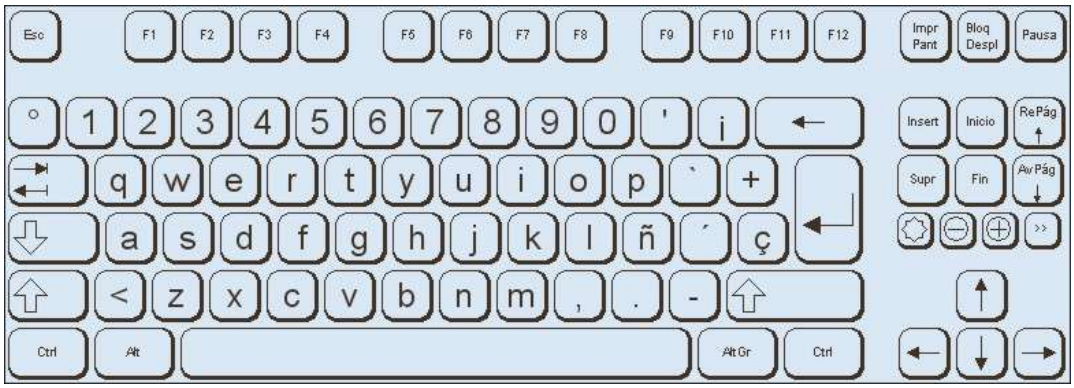

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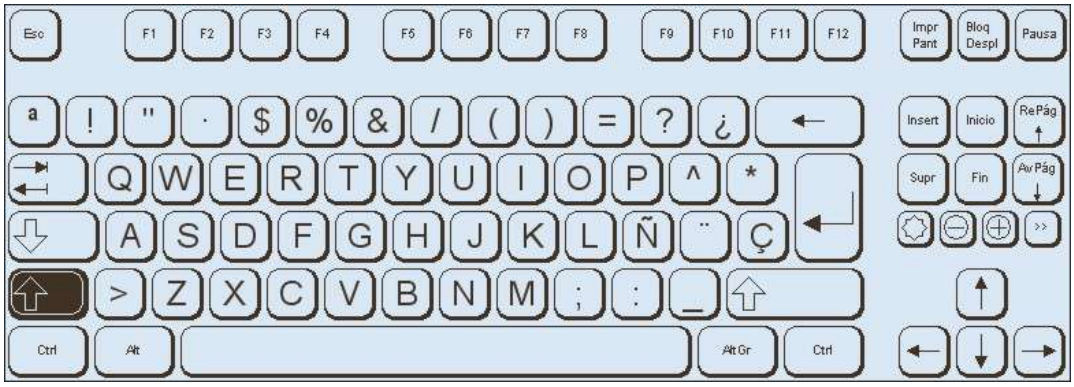
## 10.2.3.22. Slovenian

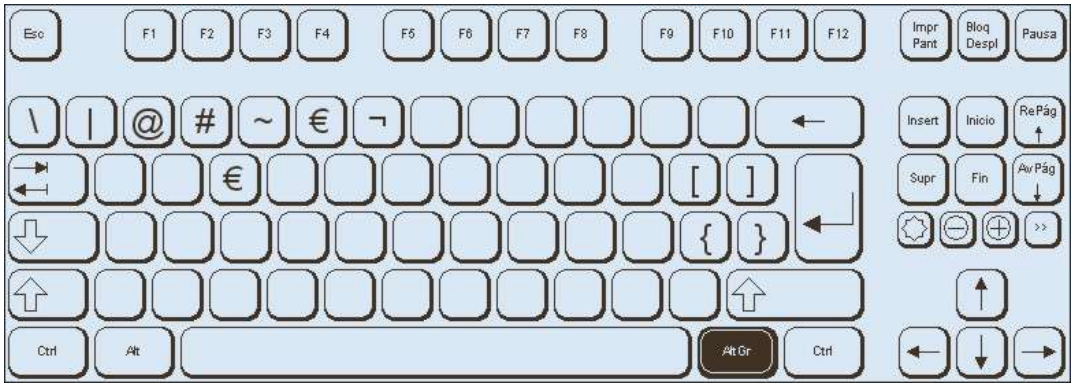

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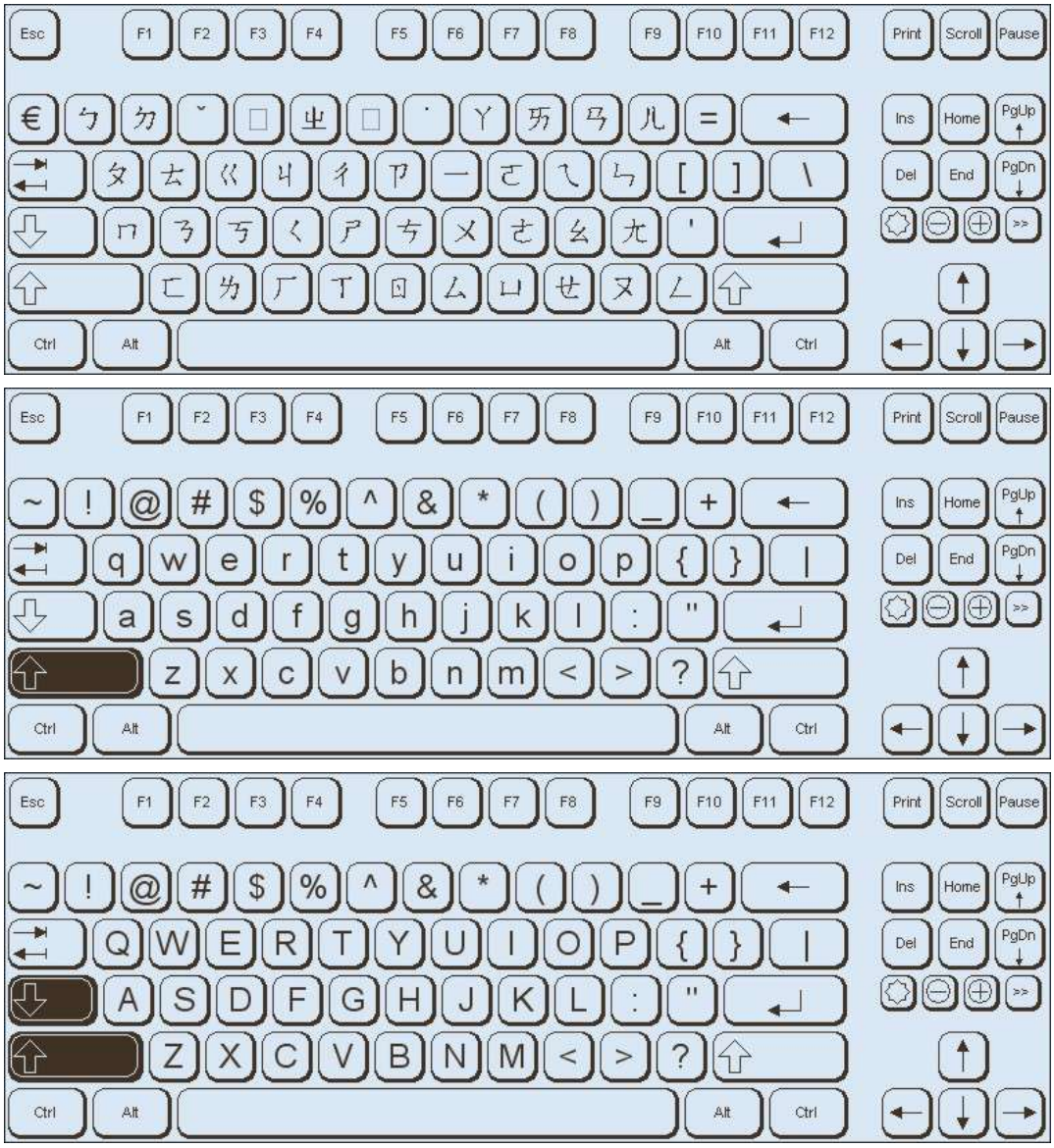

## 10.2.3.23. Spanish



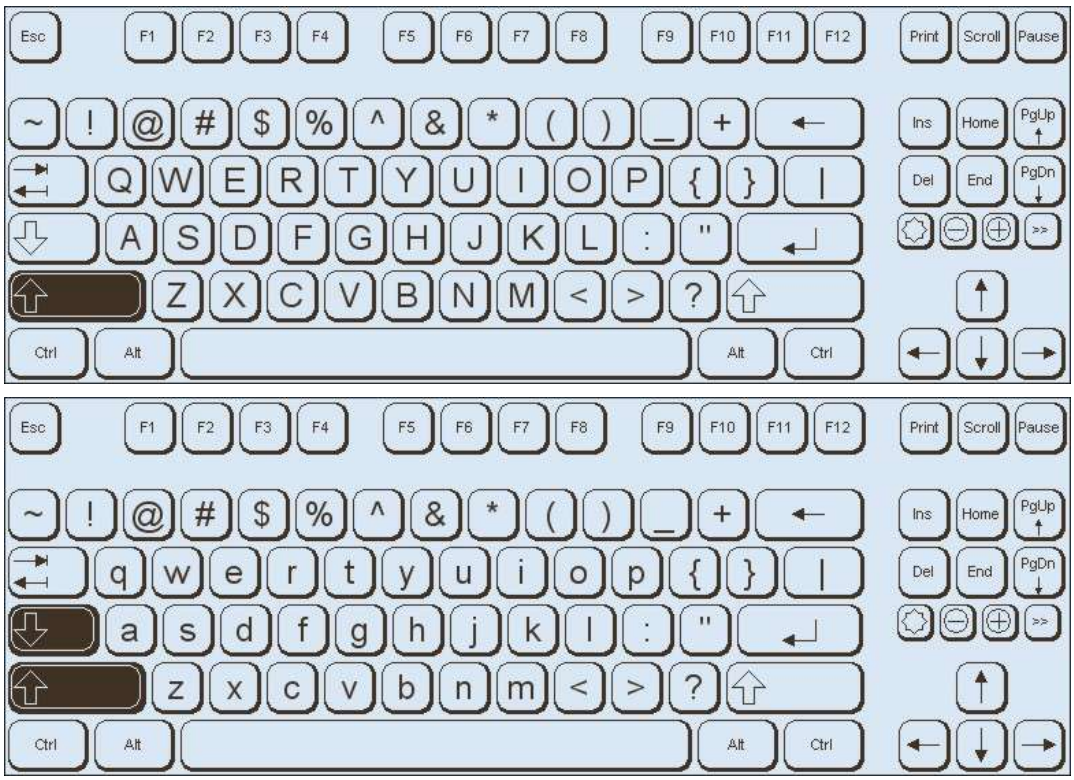



## 10.2.3.24. Taiwan (Bopomofo)

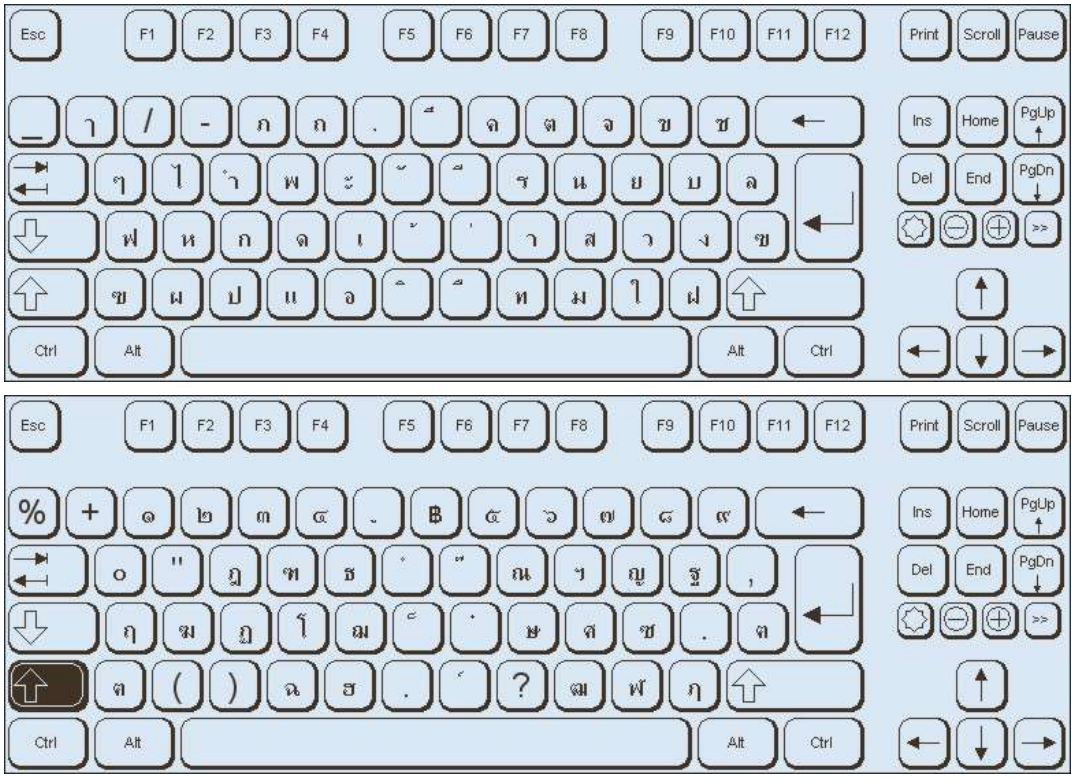


## 10.2.3.25. Taiwan (ChaJei)

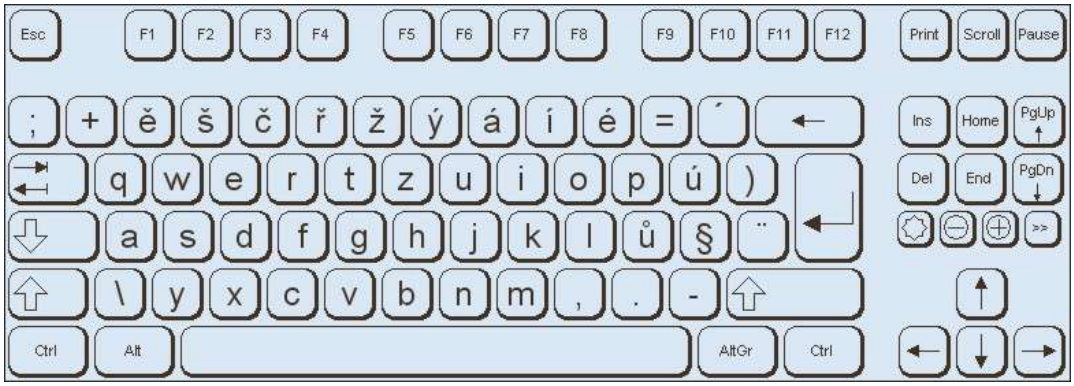


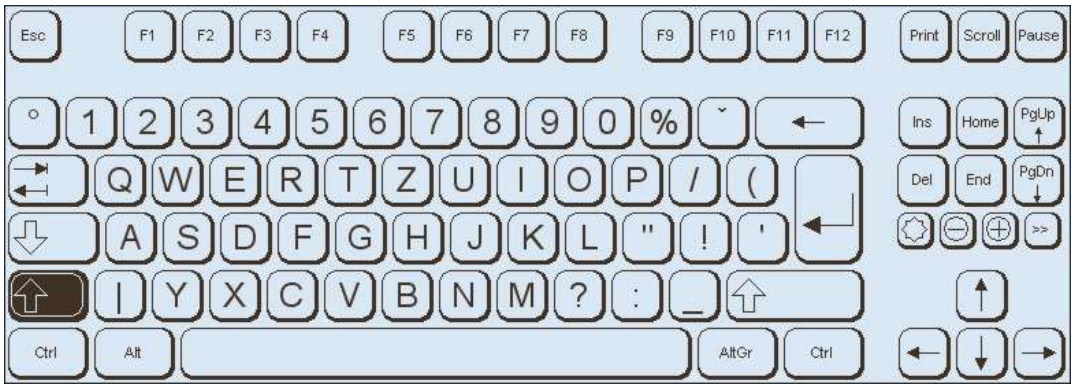

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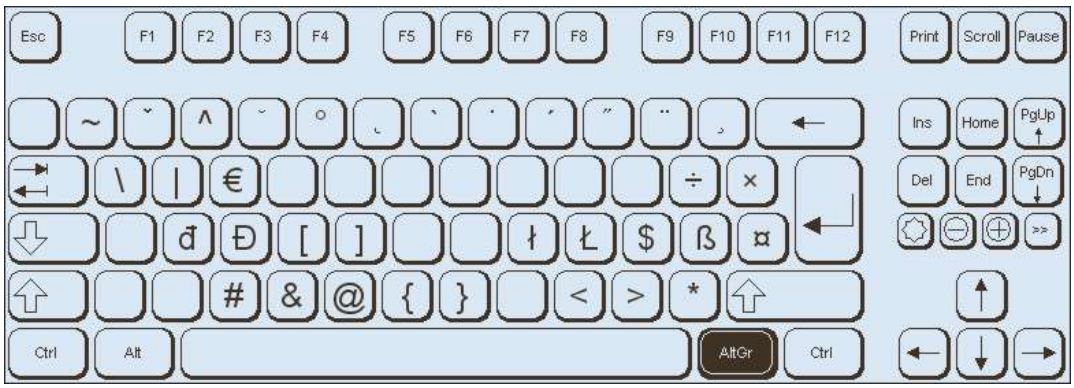
## 10.2.3.26. Thai


Esc F1 F2 F3 F4 F5 F6 F7 F8 F9 F10 F11 F12 Print Scroll Pause
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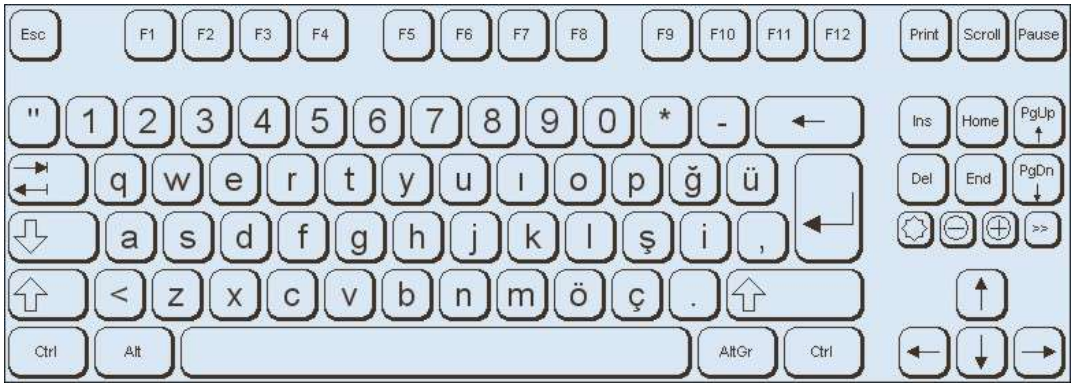
## 10.2.3.27. Czech

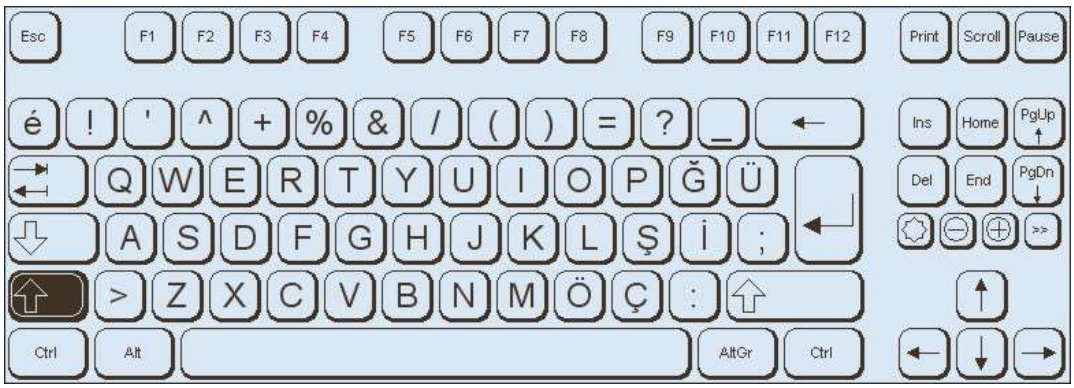

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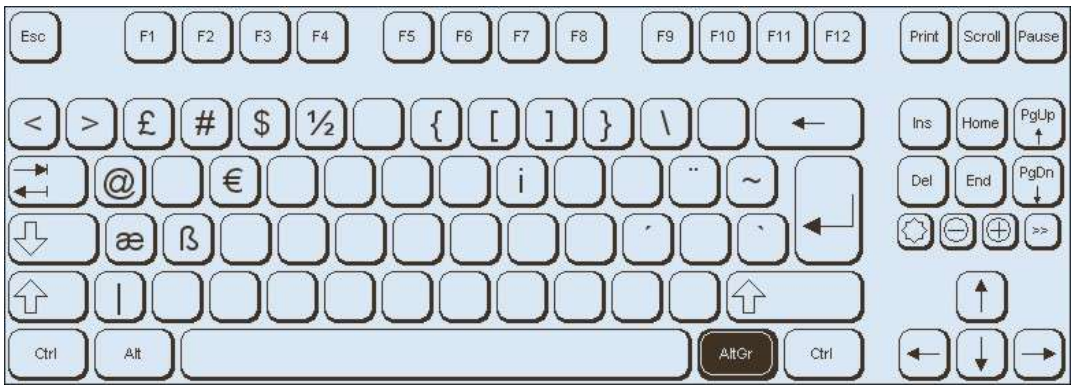

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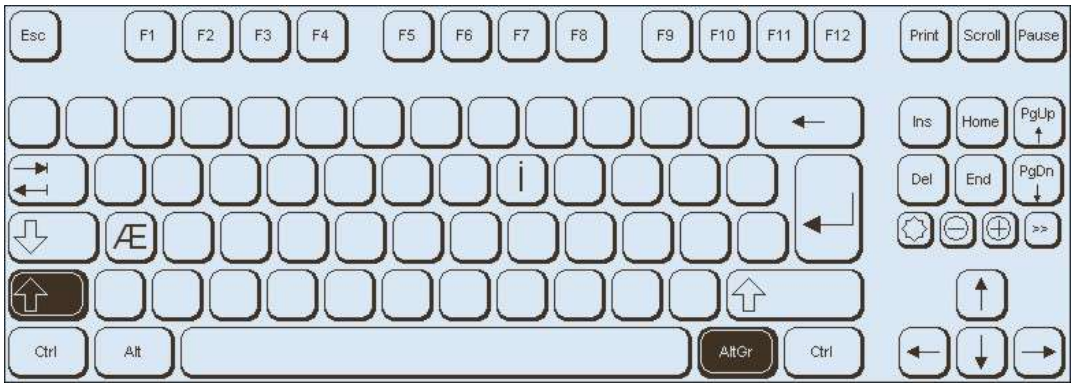



## 10.2.3.28. Turkish

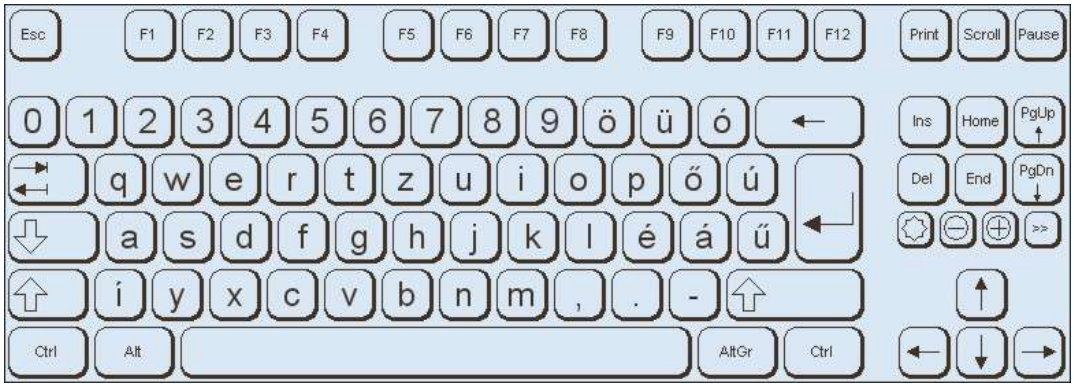

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## 10.2.3.29. Hungarian


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# Chapter 11. Administration mode

## 11.1. Operation

You can use **Administration** mode to configure various settings for **Offboard Diagnostic Information System Service**.

Clicking on the **Admin** mode button makes the following view visible.

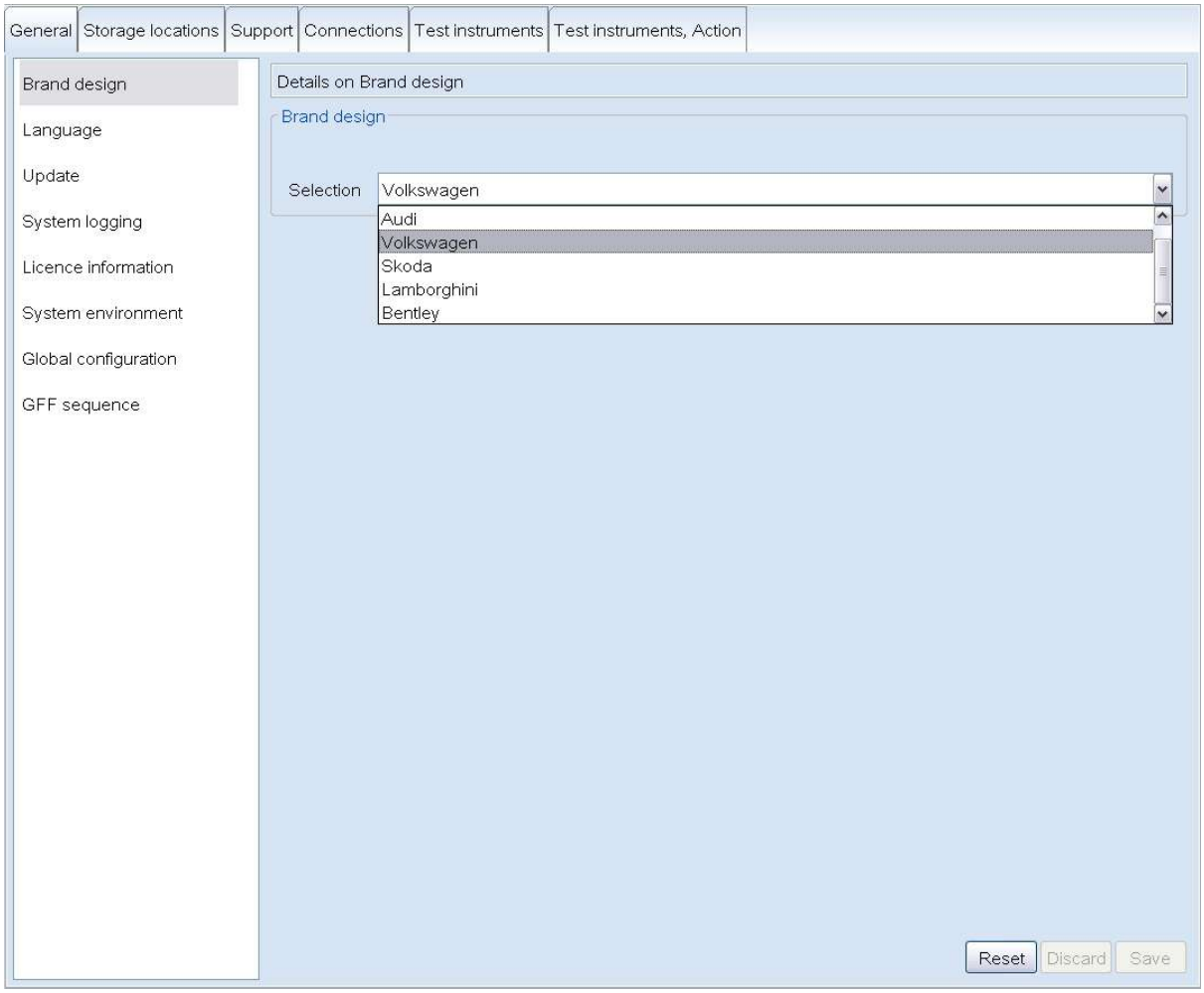



**Figure 11.1. Administration window**

The administration view provides five tabs for system settings, sorted by area. These tabs are as follows:

- **General**

  System-specific settings are configured here, such as the language or update mode.

- **Storage locations**

  The storage locations of the system and work data are configured here.

- **Support**

  The support settings are configured here.

- **Connections**

The connections to individual services of the Group systems are configured here.

- **Verification**

  The verification is configured here if this function has been licensed.

The setting options listed are available on this tab.

In order to be able to define settings, first select the settings by clicking on them in the left-hand selection window. The configuration options are then available in the right-hand window.



To reset previously saved changes to the factory settings, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

**Note:**

If you change system settings, **Offboard Diagnostic Information System Service** may no longer work. Only make changes to the configuration after being requested to do so by Support. Changes made on your own are your responsibility.

The following administration areas are available:

"General / brand design"

"General / language"

"General / update"

"General / system logging"

"General / system environment"

"General / licence information"

"General / global configuration"

"General / GFF sequence"

"General / keyboard settings"

"Storage locations / database"

"Storage locations / diagnostic session"

"Storage locations / flash paths"

- "Storage locations / diagnostic protocol"
- "Support / contact data"
- "Support / outgoing mail server"
- "Connections / brand settings"
- "Connections / Group system: GFF"
- "Connections / Group system: ElsaPro"
- "Connections / Group system: Carport"
- "Connections / Group system: DISS"
- "Connections / Group system: eShop"
- "Connections / mirror server 2"
- "Verification / configuration"

**Note:**

The Verification tab is only available if **Offboard Diagnostic Information System Service** was purchased in a product version with external verification.

# 11.2. General area

**General / brand design**

The graphical user interface of **Offboard Diagnostic Information System Service** can be adapted to a special group brand in this area.

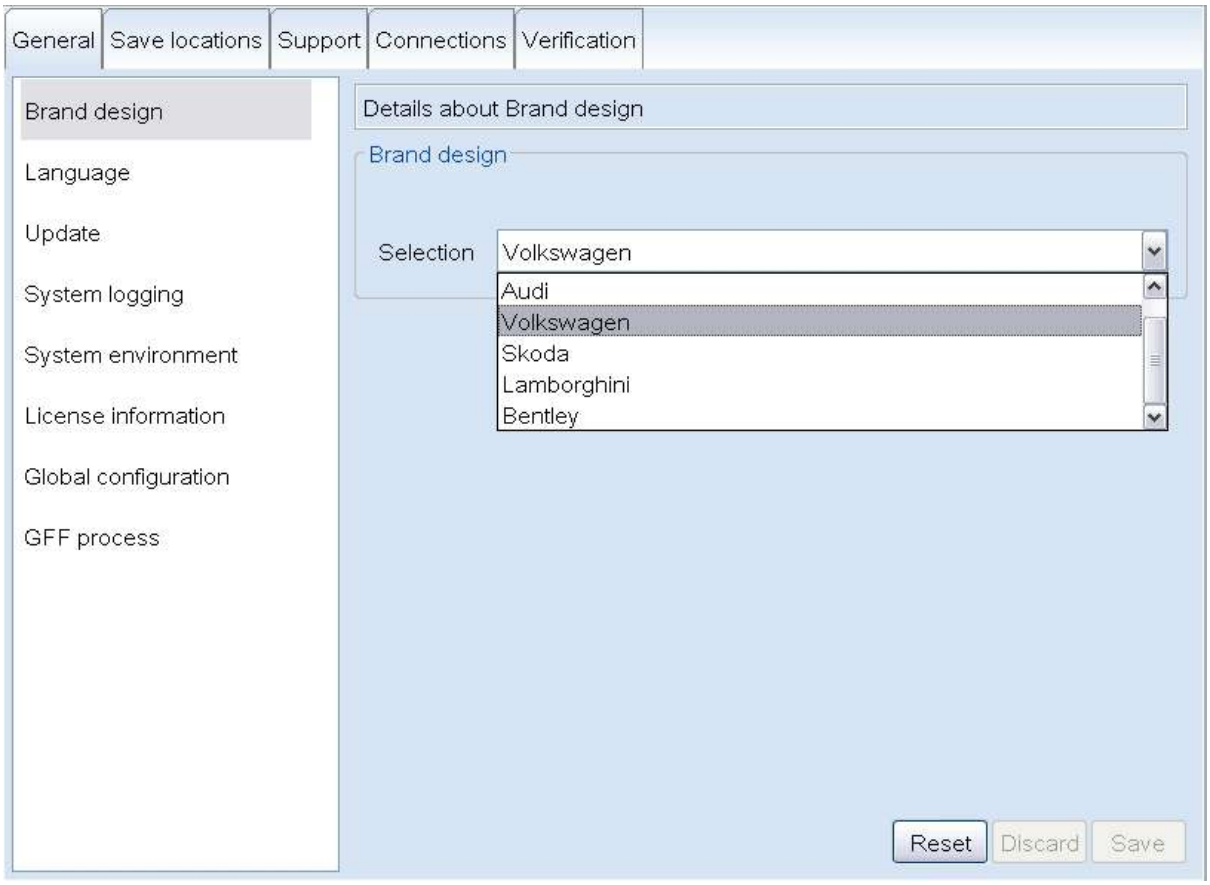


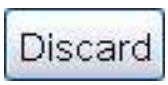

**Figure 11.2. Selecting the design**

The **Selection** list is used in Brand design details.

Designs of the following brands can be selected: Volkswagen, Audi, Bentley, Seat, Skoda, Lamborghini.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

### General / language

To change the language of **Offboard Diagnostic Information System Service**, click on the Language pop-up menu.

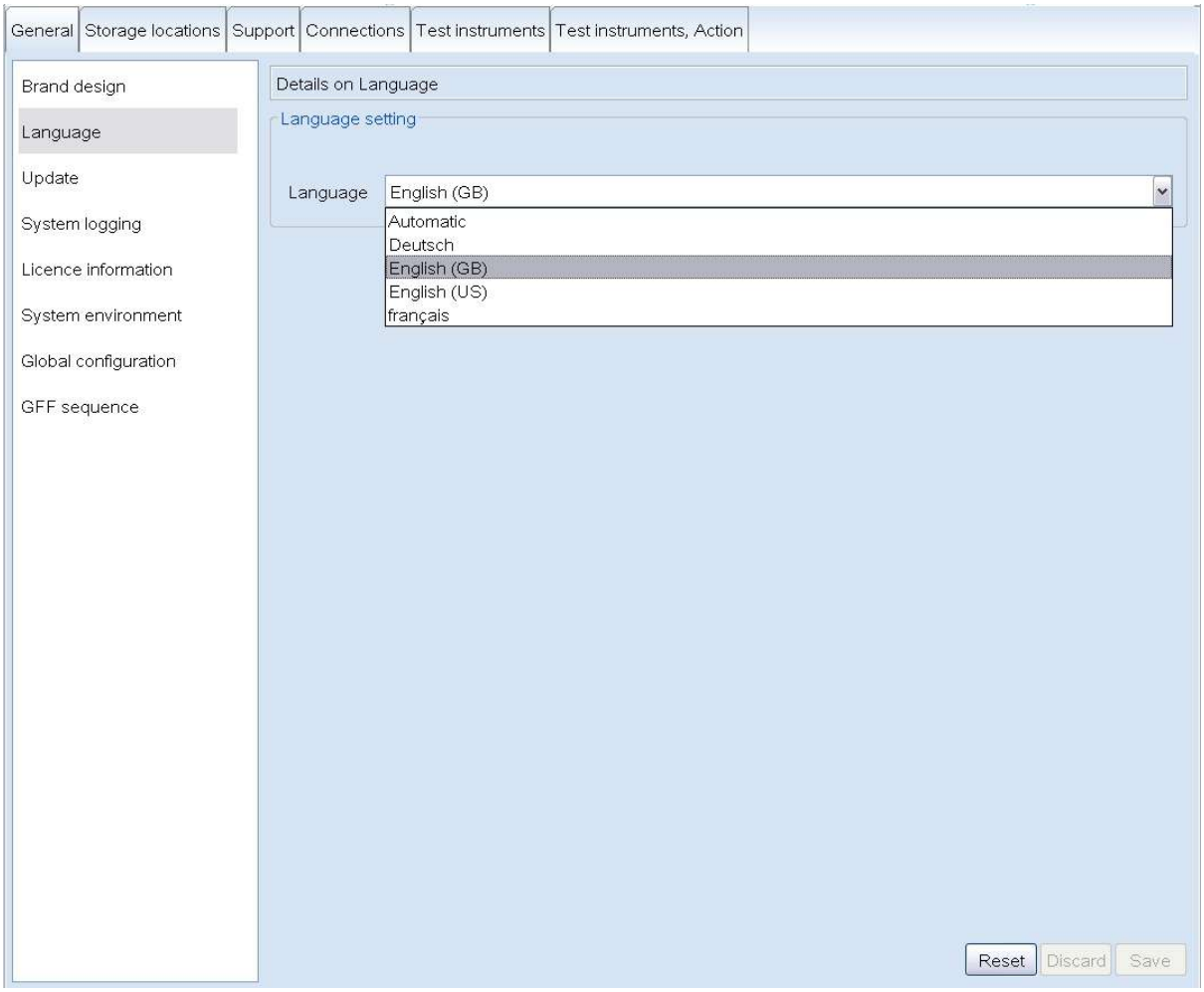



**Figure 11.3. Language setting**

The desired language can be selected from the **Language** list in **Language details**.

The default selection is **Automatically**, i.e. the language corresponds to the operating system of the test device.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

**Note:**

This only changes the language for the user interface. If documents exist in the changed language they are displayed in the newly set language, otherwise the documents remain in the languages installed.

To use **Offboard Diagnostic Information System Service** in different languages, in particular languages with East Asian characters, the following steps are required:

In the Windows operating system, open **Control Panel** -> **Regional and language options**.


Regional and Language Options
Regional Options
Languages
Advanced
Text services and input languages
To view or change the languages and methods you can use to enter text, click Details.
Details...
Supplemental language support
Most languages are installed by default. To install additional languages, select the appropriate check box below.
Install files for complex script and right-to-left languages (including Thai)
Install files for East Asian languages
Language used in menus and dialogs
English
OK
Cancel
Apply

**Figure 11.4. Additional Windows language support**

On the **Languages** tab, activate the options in the **Supplemental language support** area.

**OK**: The changes are applied and the window is closed.

**Cancel**: The changes are not applied and the window is closed.

**Apply**: The changes are applied and the window is not closed.

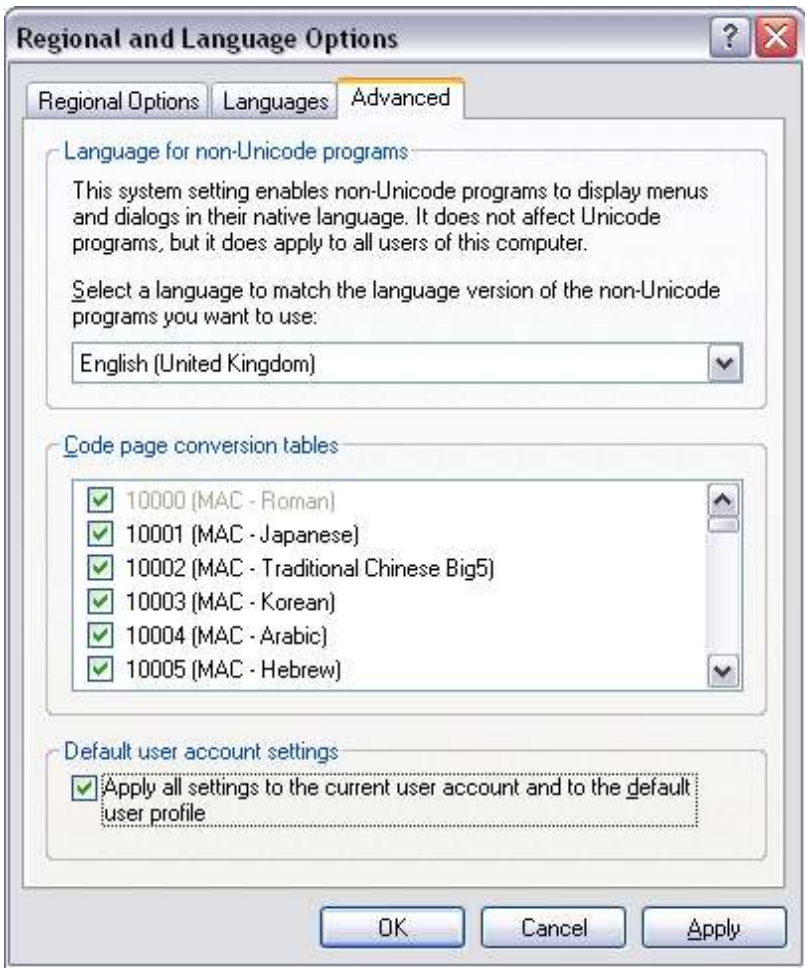

Regional and Language Options
Regional Options
Languages
Advanced
Language for non-Unicode programs
This system setting enables non-Unicode programs to display menus and dialogs in their native language. It does not affect Unicode programs, but it does apply to all users of this computer.
Select a language to match the language version of the non-Unicode programs you want to use:
English (United Kingdom)
Code page conversion tables
10000 (MAC - Roman)
10001 (MAC - Japanese)
10002 (MAC - Traditional Chinese Big5)
10003 (MAC - Korean)
10004 (MAC - Arabic)
10005 (MAC - Hebrew)
Default user account settings
Apply all settings to the current user account and to the default user profile
OK
Cancel
Apply

**Figure 11.5. Windows language display codes**

On the **Advanced** tab, activate all **Code page conversion tables**.

On the **Advanced** tab, activate the **Default user account settings**.

**OK**: The changes are applied and the window is closed.

**Cancel**: The changes are not applied and the window is closed.

**Apply**: The changes are applied and the window is not closed.

Restart the system. The languages are now available.

### General / update

How frequently **Offboard Diagnostic Information System Service** is to search mirror server 2 for updates can be set under **Planning** in **Update details**.

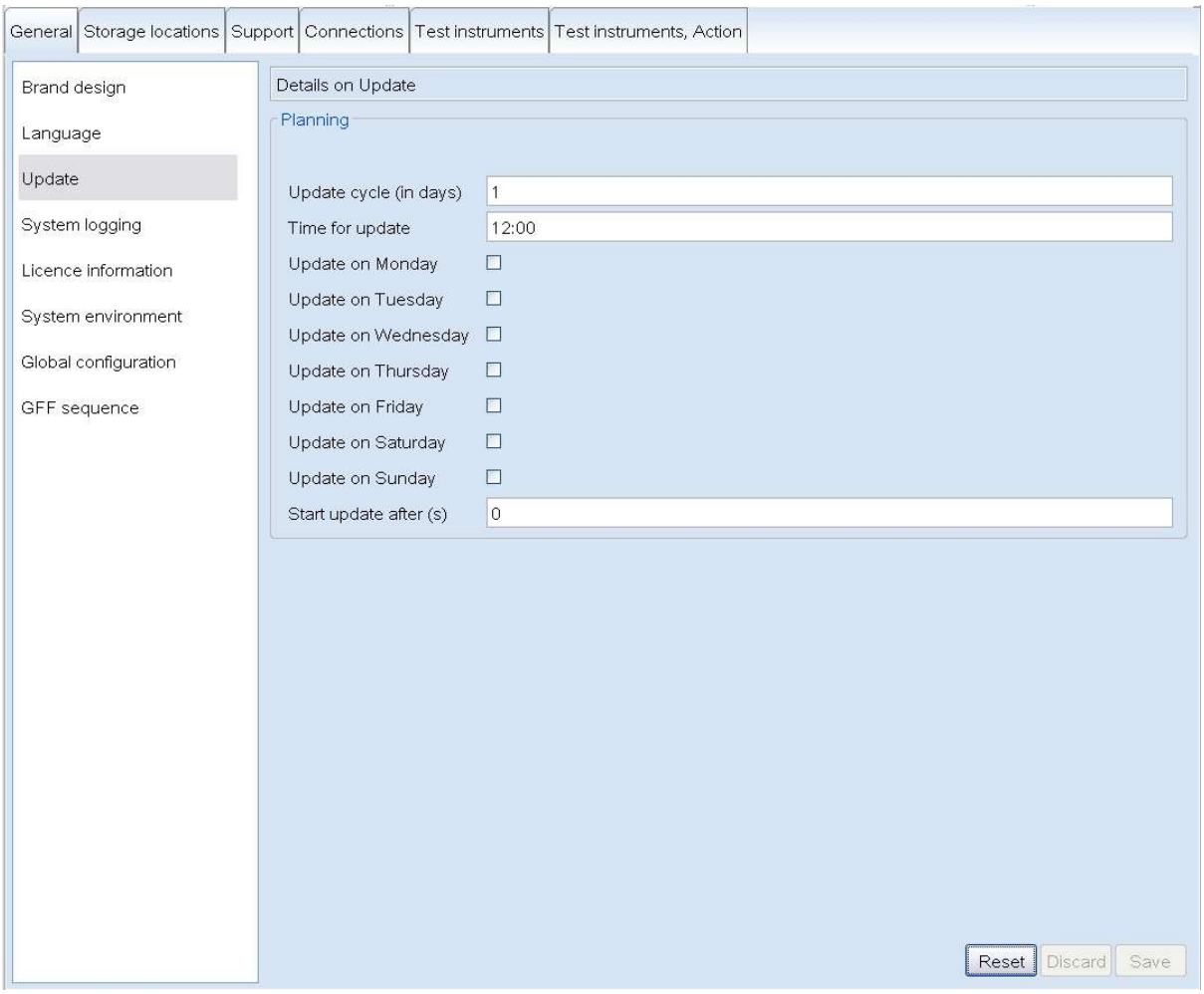



**Figure 11.6. Update view**

**Update cycle (in days):** **1** needs to be entered as the default value in this text field. That means that available program updates are searched for every day after the program has been started for the first time. If you enter **0** under **Update cycle**, **Offboard Diagnostic Information System Service** will start without searching for program updates. Alternatively, you can enter the desired update cycle in days here. For example, if you would like to look for updates every five days, enter the number 5 here.

**Time for update**: The desired update time can be specified here.

**Update on (Monday - Sunday):** The desired day of the week is selected here.

**Start update after (s)**: A delay in time for the update start is entered here in seconds.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

**Note:**

If 0 is entered as the value for the update cycle in days, **Offboard Diagnostic Information System Service** never searches for existing updates. New data thus might be overlooked.

### General / system logging

A selection window can be used to define the **system logging** contents. The system log is written into a log file, which is sent with the feedback.

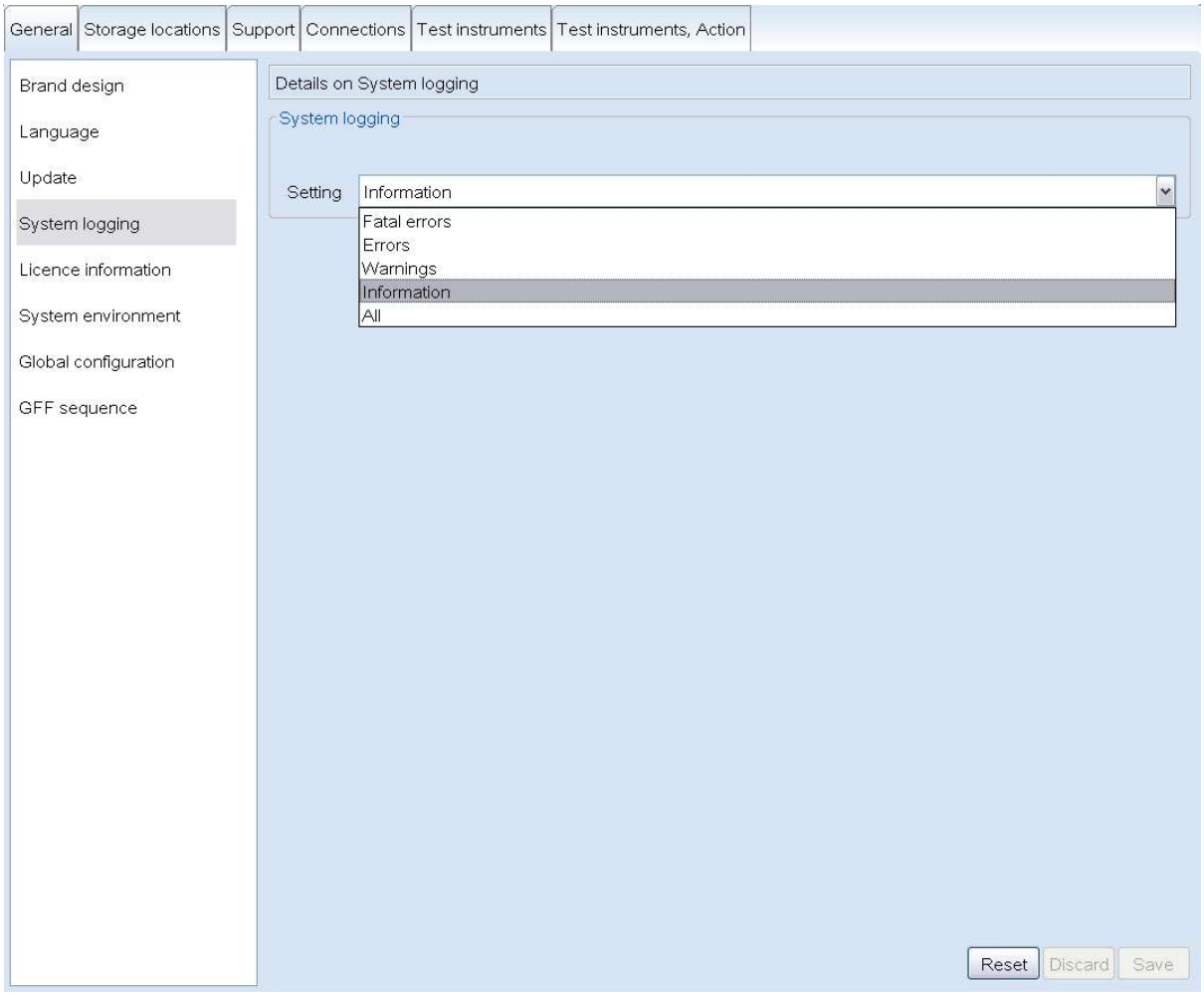



**Figure 11.7. System configuration view**

If the feedback support team requires more detailed information, the contents can be set in **System logging details** under **Setting**.

The selection:

- **All**

  consists of all log contents listed here. This is the largest file. Its transmission may therefore take the longest time.

- **Information**

  consists of log contents with information.

- **Warnings**

  consists of log contents with warnings.

- **Errors**

  consists of log contents with errors.

- **Fatal errors**

  consists of log contents with fatal errors.

The scope of the log information entered increases from "Fatal errors" to "All". A detailed log output may reduce the performance.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

### General / system environment

This section informs you about system settings of **Offboard Diagnostic Information System Service**.

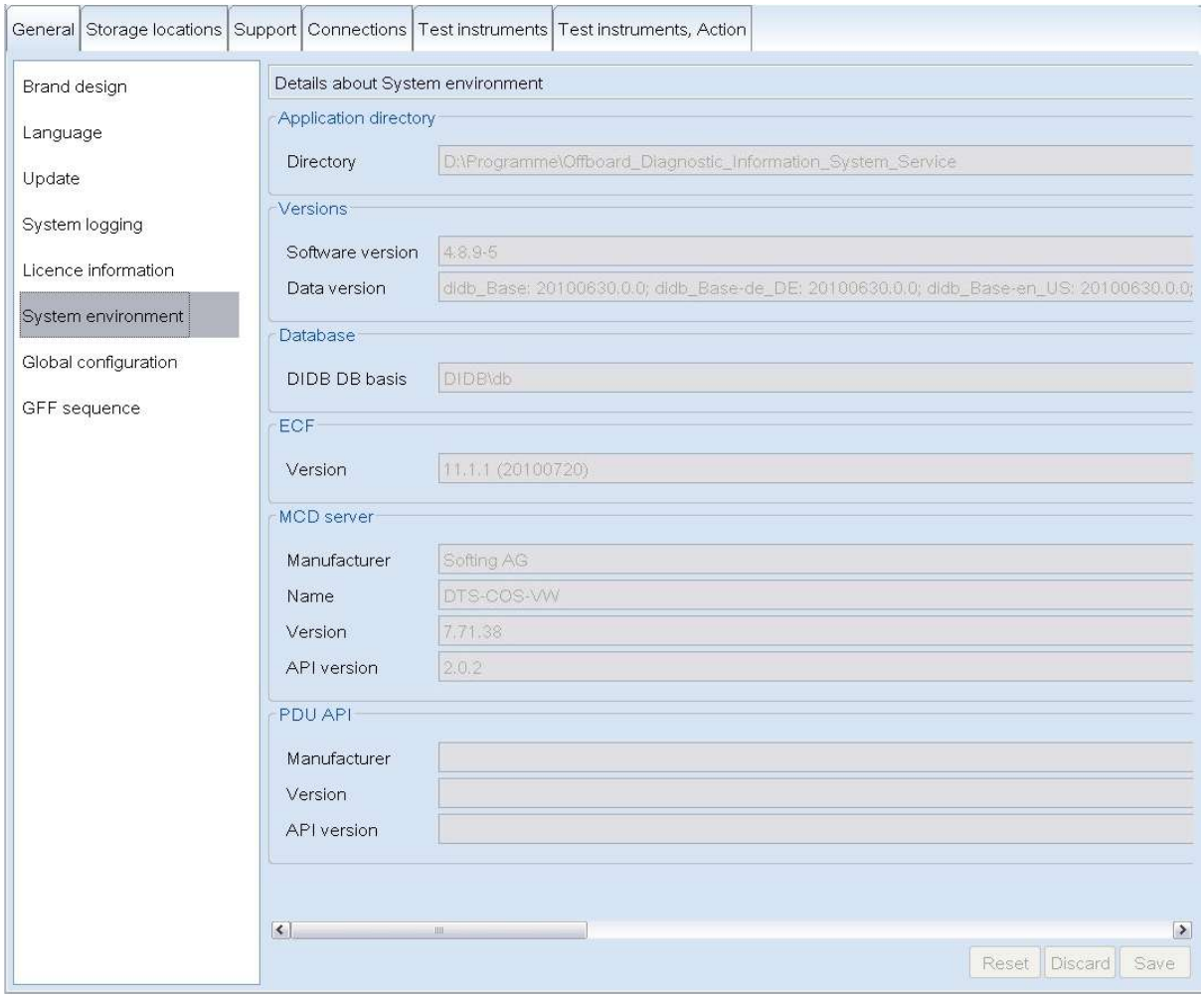



**Figure 11.8. System environment view**

Under **System environment details**,

- the system path to the **application directory** is displayed,
- the software and data **versions**,
- the storage location of the diagnostic database, **DIDB DB Basis**,
- the **ECF** version,
- and the manufacturers and versions of the external diagnostic applications, **MCD Server** and **PDU API**.

The data cannot be changed here. The view is only for your information.

### General / licence information

This view shows all licence details.

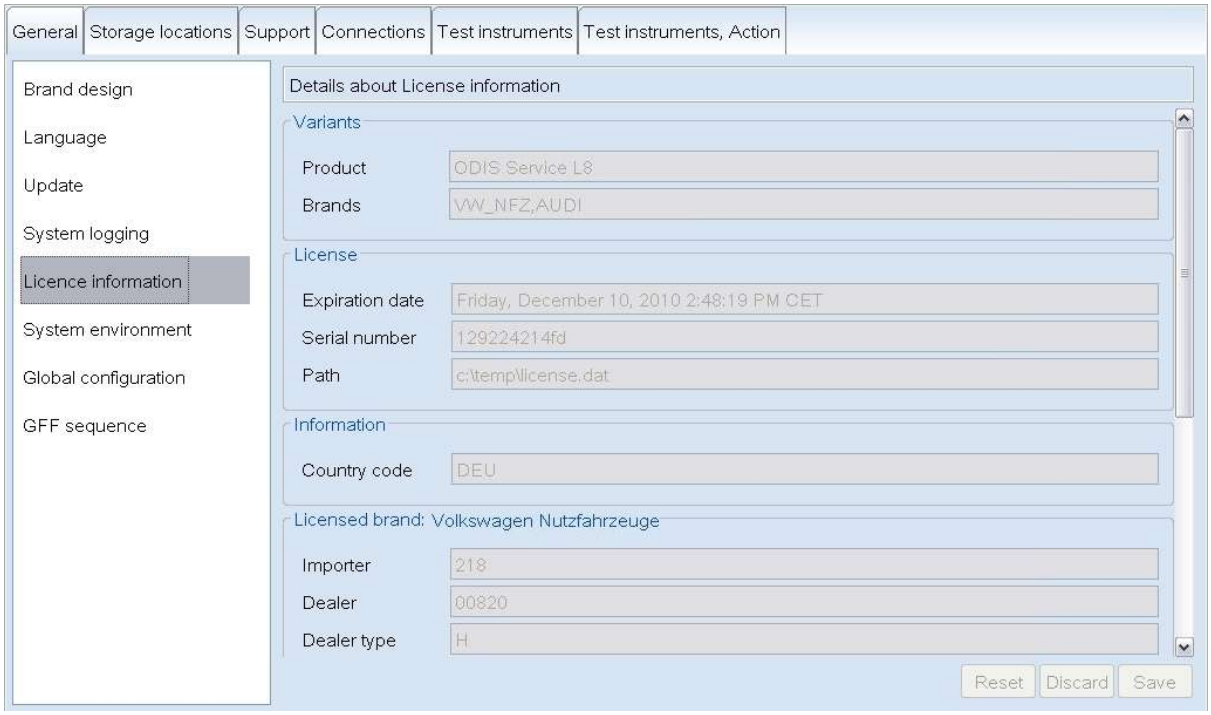



**Figure 11.9. Licence information view, Part 1**

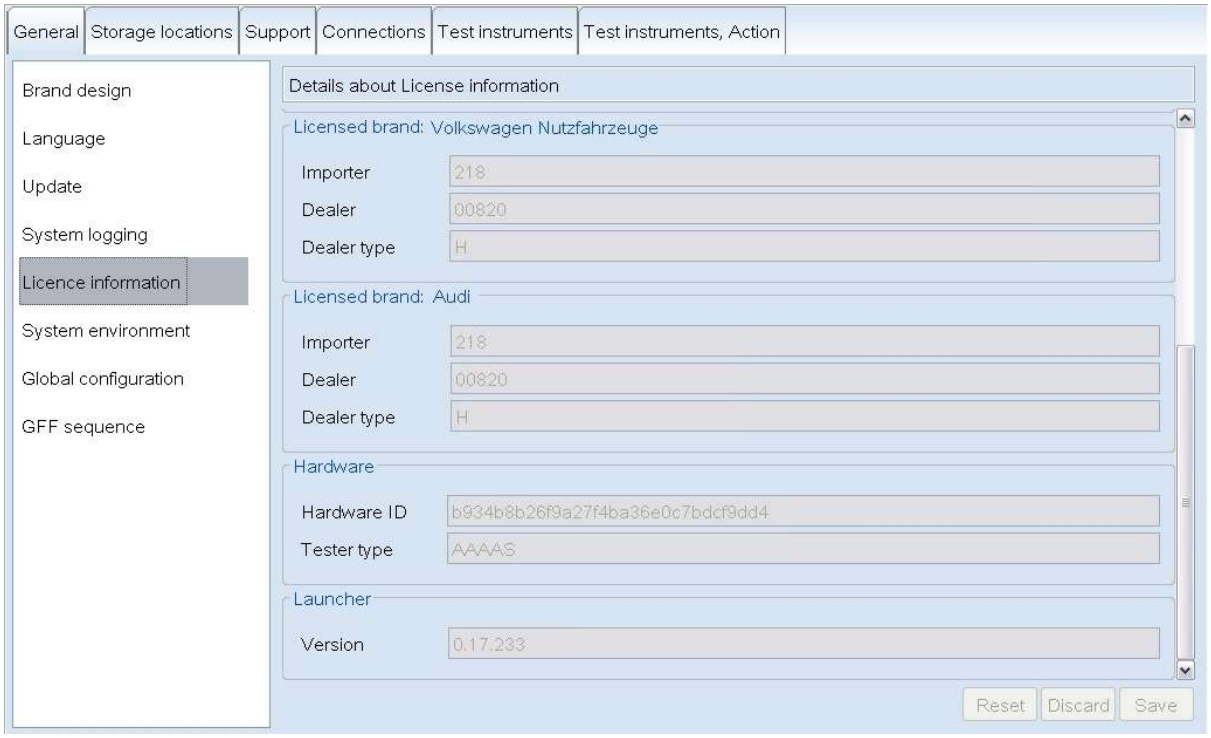



**Figure 11.10. Licence information view, Part 2**

The following licence information is displayed:

- **Product** and **brand** variants,

- The **expiry date**, **serial number** and **file path** of the licence file,
- The **country code** under Information,
- The **importer** and **dealer** numbers and the **dealer type** under Licensed brand(s),
- The **hardware ID** and the **tester type** under Hardware,
- The **version** of the start program under Launcher.

The data is only for your information. Nothing can be changed.

**Reference:**

See also Note in "Diagnostic start-up" chapter.

### General / global configuration

With the **global configuration**, all test devices (testers, notebooks) access the same configuration file, meaning that all the devices have the same settings.

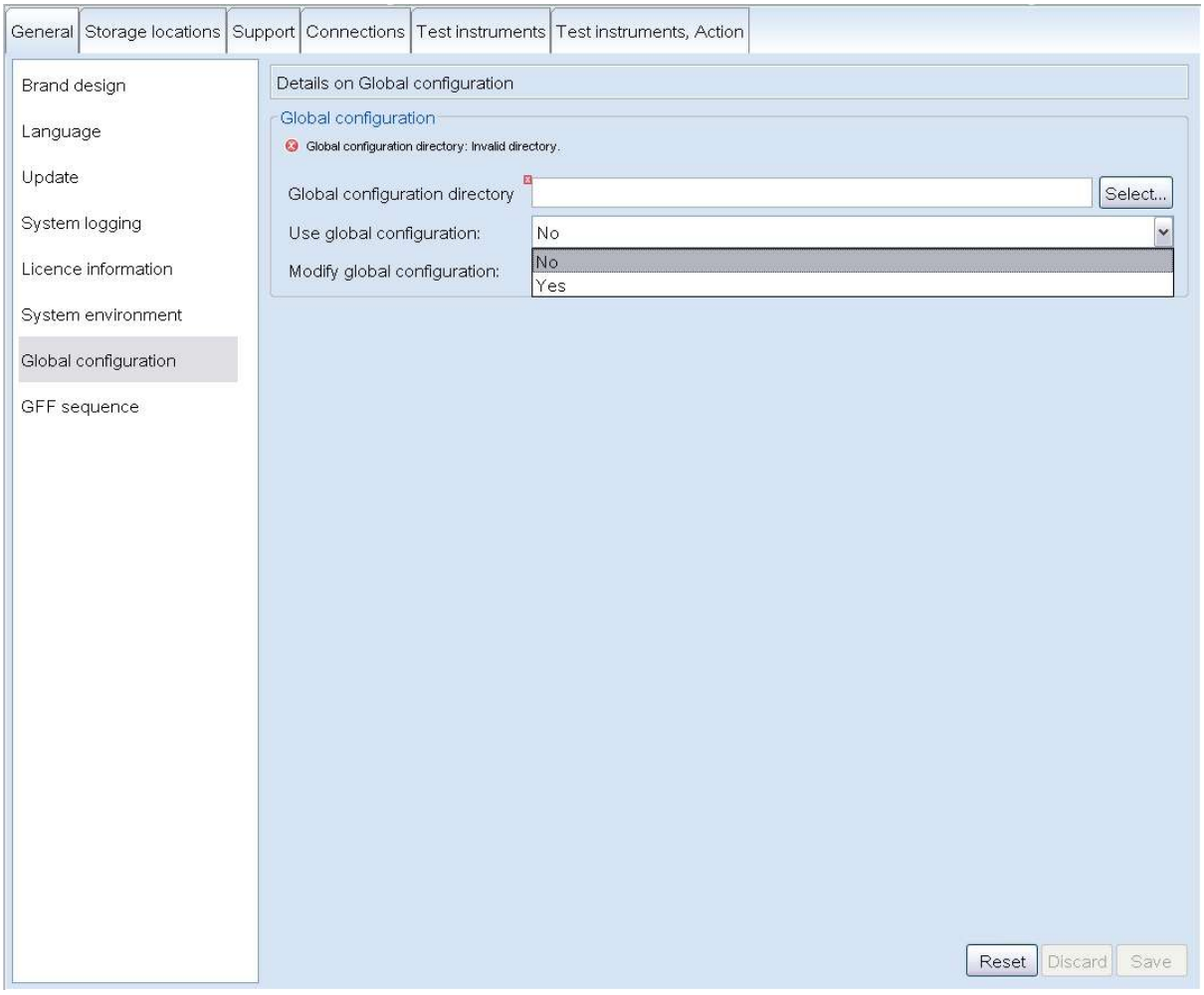



**Figure 11.11. Global configuration view**

For this, the global configuration file must be saved in a previously selected path in the local network.

**Select:** A path can be set here for the individual test devices under **Global configuration directory**.

**Use global configuration:** This option is for setting whether the test device is to apply the global configuration settings if a corresponding file is specified in the directory described above.

**Change global configuration:** Select whether the configuration data of the test device is to be written back to the global configuration directory under here. That overwrites the global configuration data.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

**Note:**

If no global configuration directory is selected, **Offboard Diagnostic Information System Service** uses the local configuration settings.

### General / GFF sequence

The list of individual test steps on the left in the sequence view of guided fault finding can be enabled or disabled.

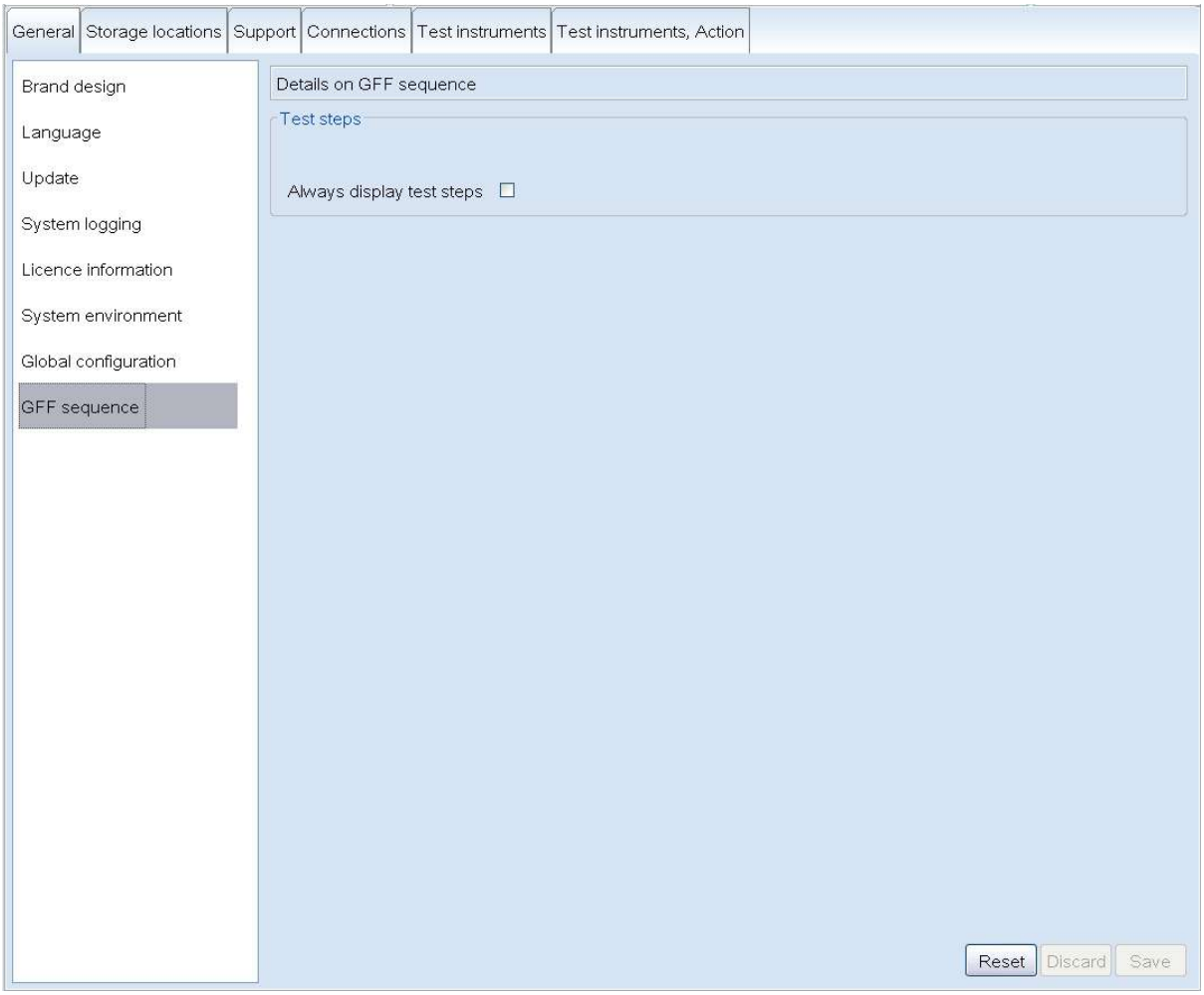



**Figure 11.12. View of GFF sequence details**

**Always display test steps**: If this setting is activated, the test steps are displayed. Otherwise, the list of test steps is deactivated.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

### General / keyboard settings

The use of the **virtual keyboard** can be deactivated or activated.

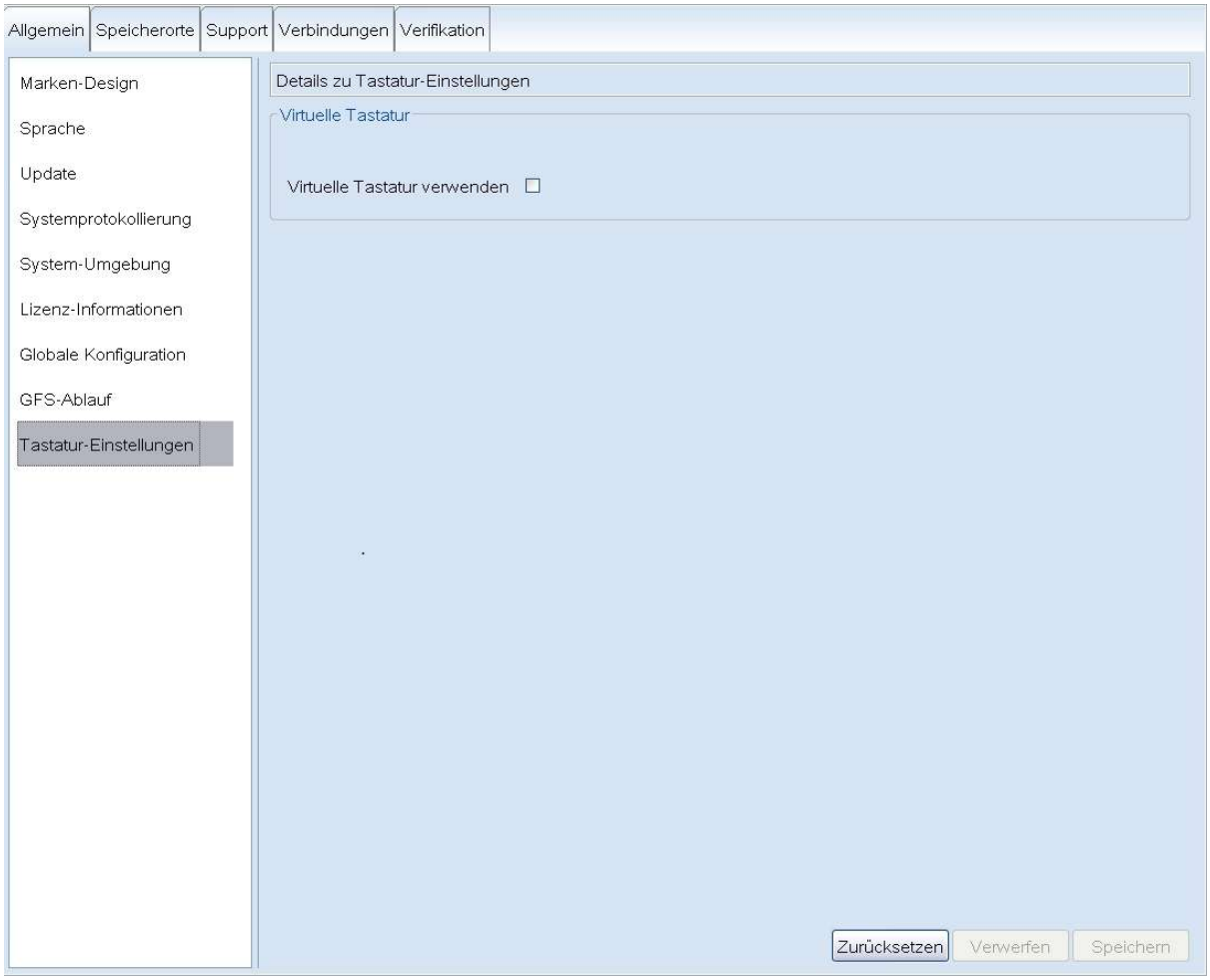



**Figure 11.13. Details view for the virtual keyboard**

**Use virtual keyboard**: If this setting is activated, the virtual keyboard is activated. Otherwise, the use of the virtual keyboard is deactivated.

If the use of the virtual keyboard is activated, it appears automatically if entries are required using the keyboard in test programs of guided fault finding.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

# 11.3. Storage locations area

**Storage locations / database**

The storage location of the diagnostic database can be set in this area.

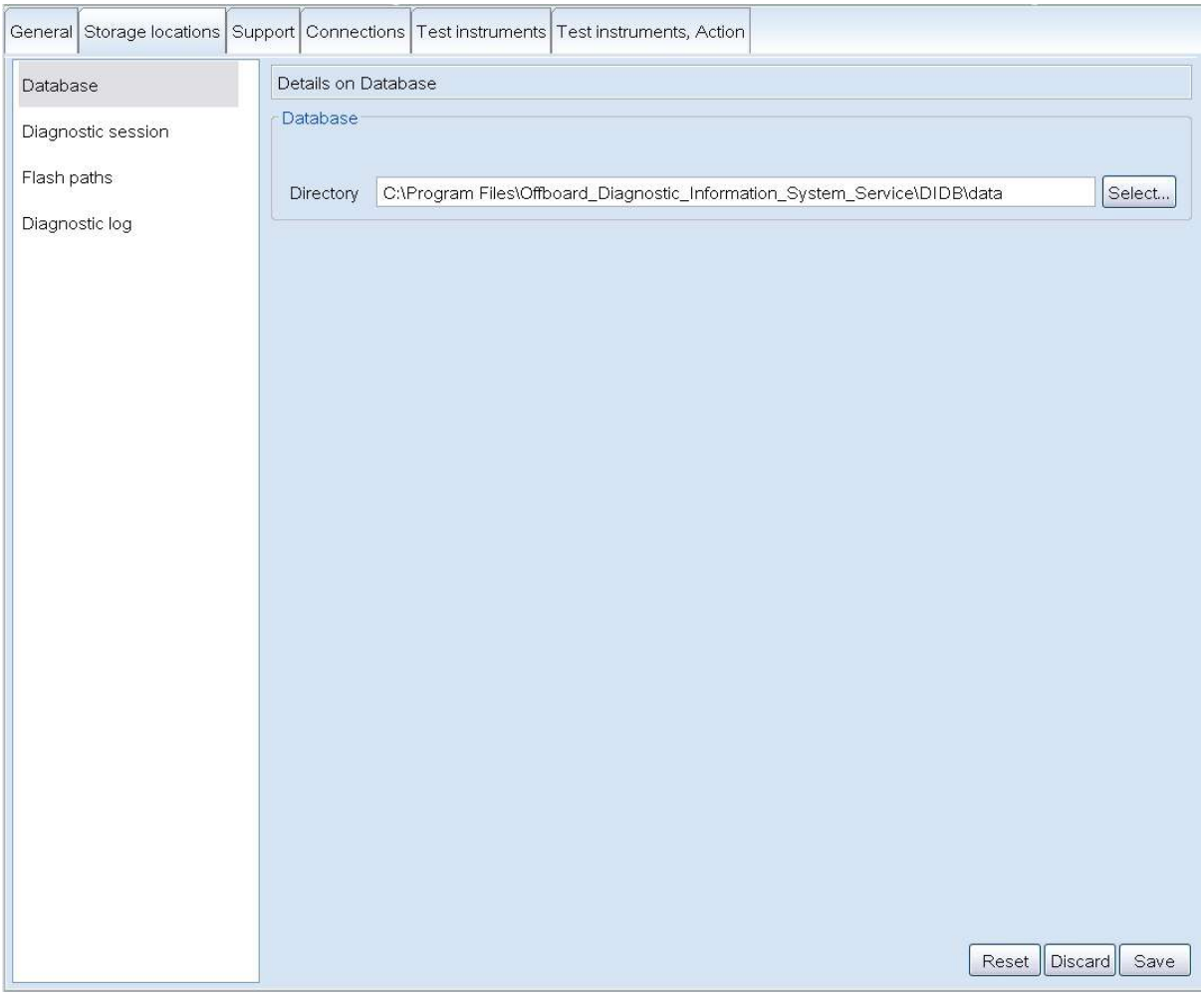



**Figure 11.14. Database directory**

**Select:** This button can be used to set the storage location of the **database directory** in Database details in the Windows file system.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

**Note:**

You must consult support before changing this path! Otherwise the vehicle's diagnostic data is no longer available.

If the database is copied to a different location, the new path needs to be entered here.

### Storage locations / diagnostic session

The storage location and the file name setting of the diagnostic session data can be preconfigured in this area.

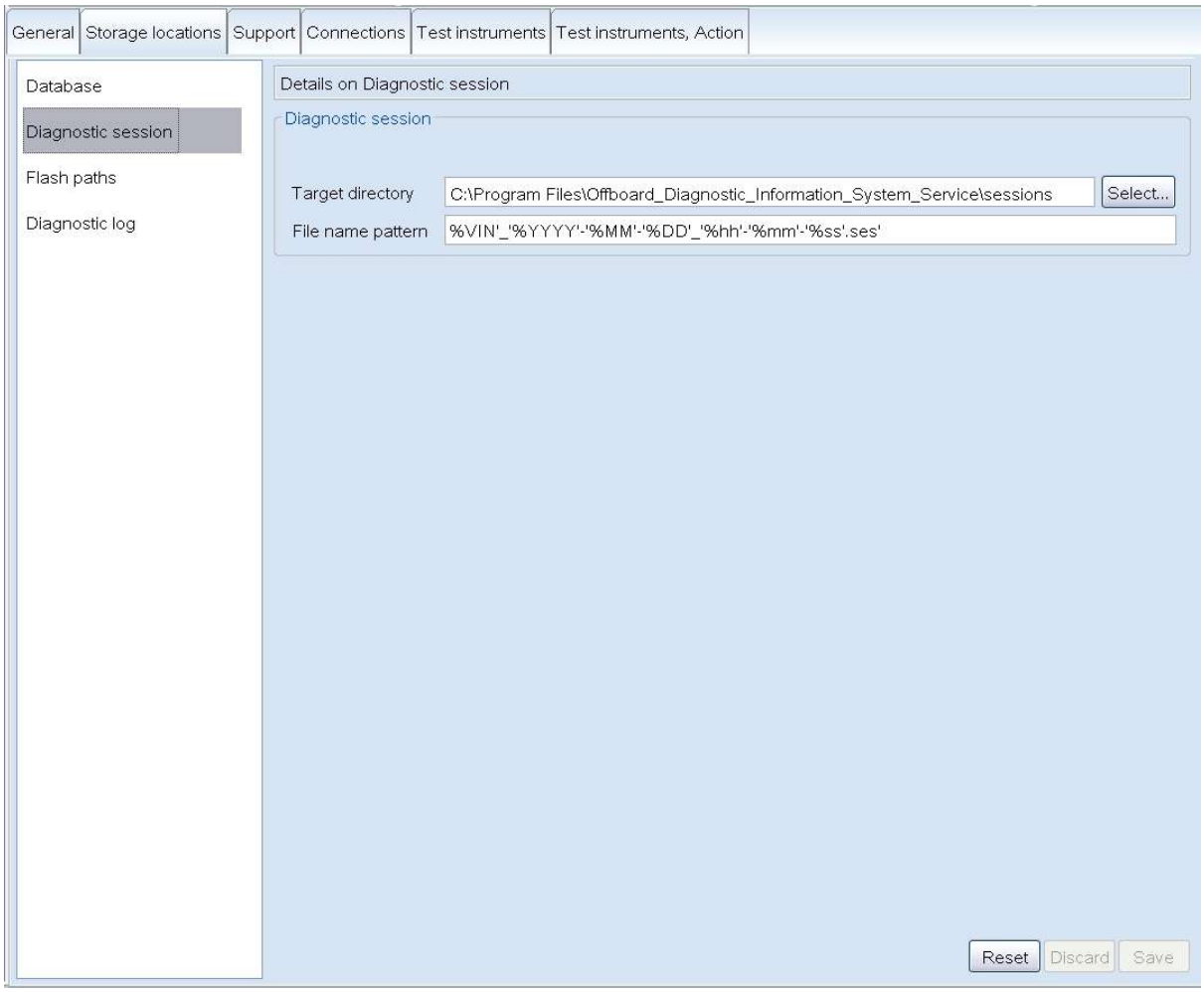



**Figure 11.15. Diagnostic session storage location**

**Select:** This button can be used to select the specified storage location for the diagnostic session data under **Diagnostic session details** in the **Target directory** field.

During a session, the Windows Save dialogue can be used to save the session data to a different location.

**File name pattern:** A name pattern for the diagnostic session can be selected in the text field.

In the example displayed, the file name consists of the VIN, the date with four-digit year, two-digit month and day and the exact time, e.g. *VIN_2009-08-12_16-27-15.ses*.

These specifications are possible:

• %YYYY#for the current year

• %MMM#for the current month

• %DD#for the current day of the month

• %hh#for the current hour of the day in 24 h format

• %mm#for the current minute of the hour

• %ss#for the current second of the minute

• %VIN#Vehicle Identification Number (chassis number) of the diagnosed vehicle.

• Freely definable text that may include the following characters:

• Letters in upper and lower case,

• All digits from 0 - 9,

• And the following characters: _(underline) -(minus) .(dot)



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

**Note:**

A storage location must be available to be able to save the session data.

### Storage locations / flash paths

The file paths are specified in this area used by **Offboard Diagnostic Information System Service** to load flash files.

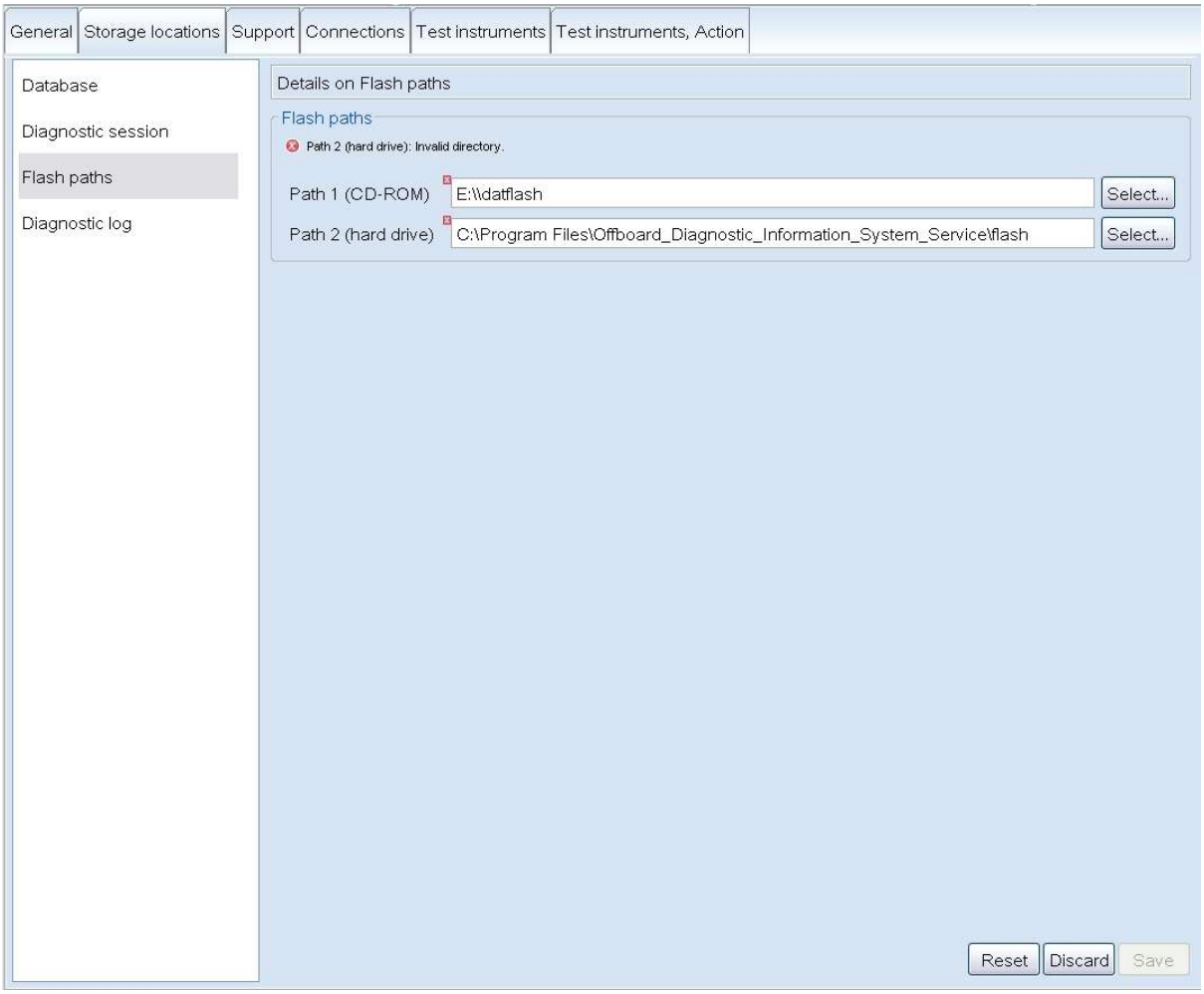



**Figure 11.16. Flash paths view**

**Select:** In **Flash path details** under **Flash paths**, this button is used to specify the path to the flash files in the Windows file system for **Path 1 (CDROM)** and **Path 2 (hard drive)**. Local flash files can be stored under these paths and made available for flashing.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

The manual entry of the paths must comply with Windows specifications:

*CDROM drive letter:\Flash data* or

*Drive letter:\Folder name\Flash data*

**Note**:

If no valid path information is available here, local access to flash files is not possible.

### Storage locations / diagnostic protocol

The storage location and the choice of names for diagnostic protocol in Windows file system are specified here. Offboard Diagnostic Information System Service proposes a default setting.

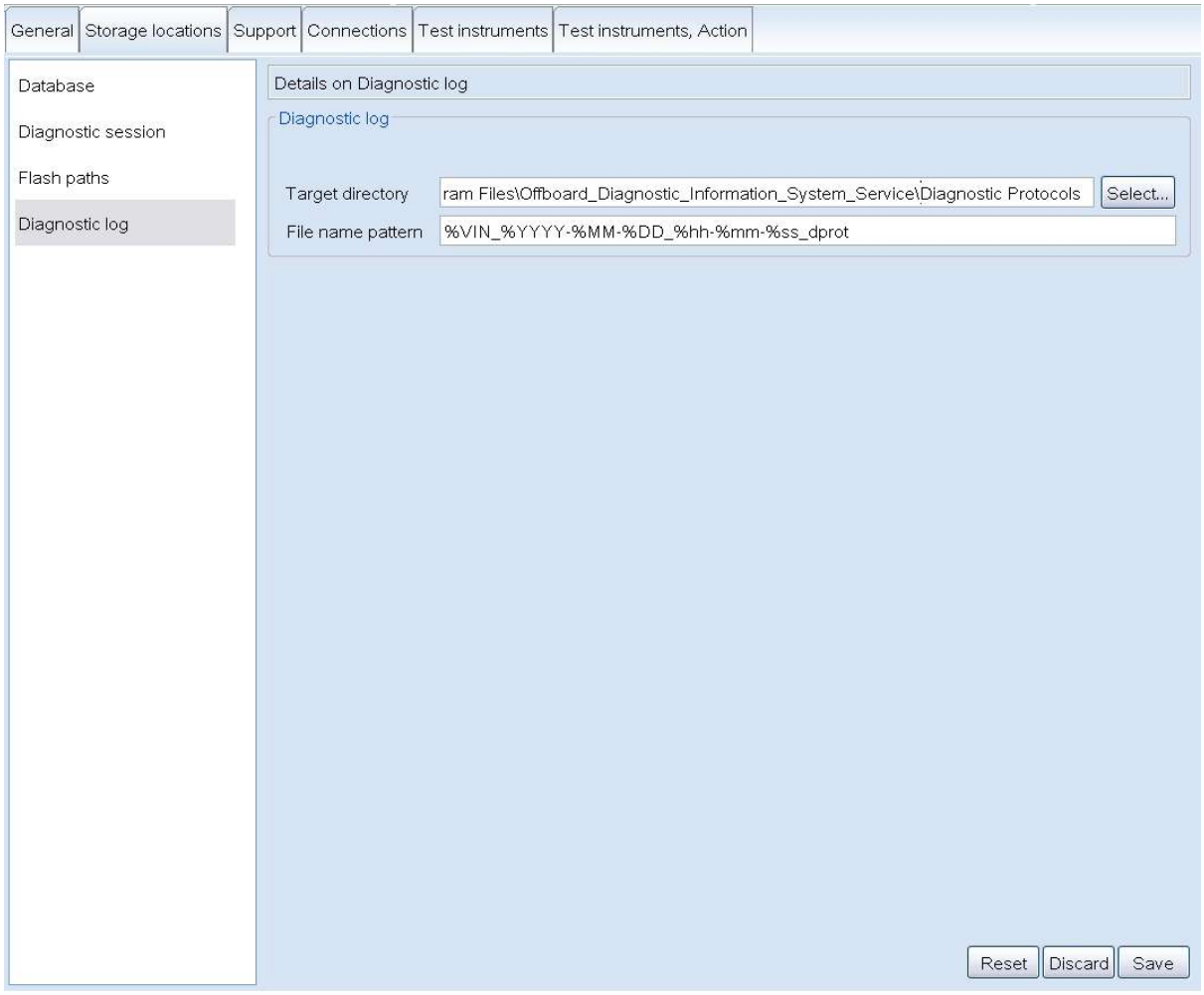



**Figure 11.17. Diagnostic protocol view**

**Select:** The storage location for the diagnostic protocol can be entered under **Diagnostic protocol** in the **Target directory** field in **Diagnostic protocol details**.

During a session the Windows Save dialogue can be used to save the protocol data to a different location.

**File name pattern:**A name pattern for the protocol can be selected in this text field. In the example displayed, the file name consists of the VIN, the date with four-digit year, two-digit month and day and the exact time, e.g. *VIN_2009-08-10_14-32-34_dprot*.

These specifications are possible:

• %YYYY#for the current year

• %MMM#for the current month

• %DD#for the current day of the month

• %hh#for the current hour of the day in 24 h format

• %mm#for the current minute of the hour

• %ss#for the current second of the minute

• %VIN#Vehicle Identification Number (chassis number) of the diagnosed vehicle.

• Freely definable text that may include the following characters:

• Letters in upper and lower case,

• All digits from 0 - 9,

• And the following characters: _(underline) -(minus) .(dot)



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

**Note:**

To avoid confusion with other files, the diagnostic protocol is saved in the default settings with the VIN in the file name.

# 11.4. Support area

**Support / contact data**

The data of the person available to support as the contact is entered here.

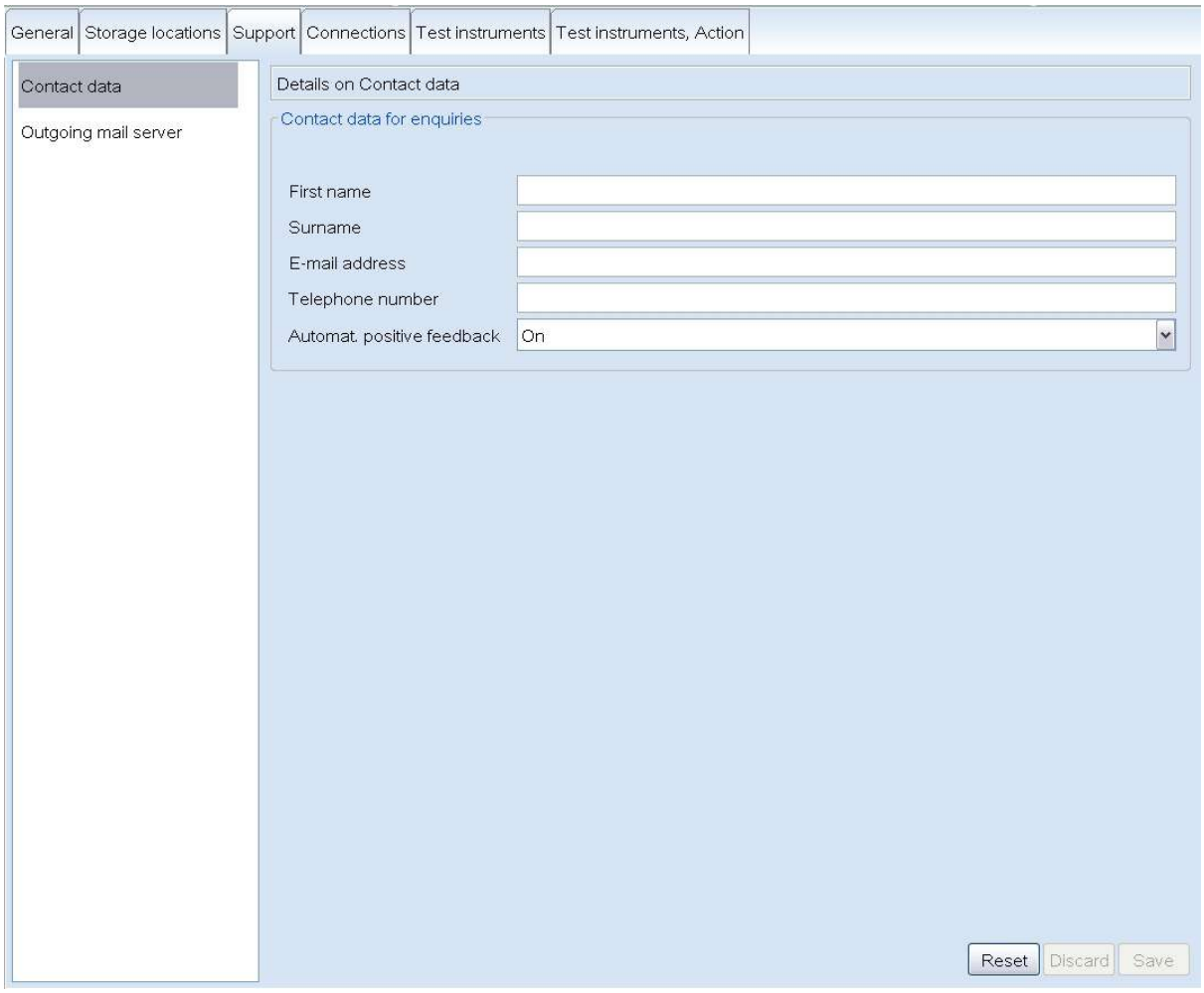



**Figure 11.18. Support view**

The contact and his address data for support enquiries is entered in **Contact details** under **Contact data for enquiries**

Possible data:

- First name
- Surname
- E-mail address
- Telephone number

The **Automat. positive feedback** field is used to set whether feedback on the statistical evaluation is to be sent after every diagnostic session, even is there are no problems.

**Off**: No automatic positive feedback is sent.

**On:** Automatic positive feedback is sent.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

---

**Note:**

This information is required so that the support team can consult the correct contact in the event of enquiries.

**Reference:**

See also "Support" chapter

---

### Support / outgoing mail server

The feedback mail connection for support is configured in this area.

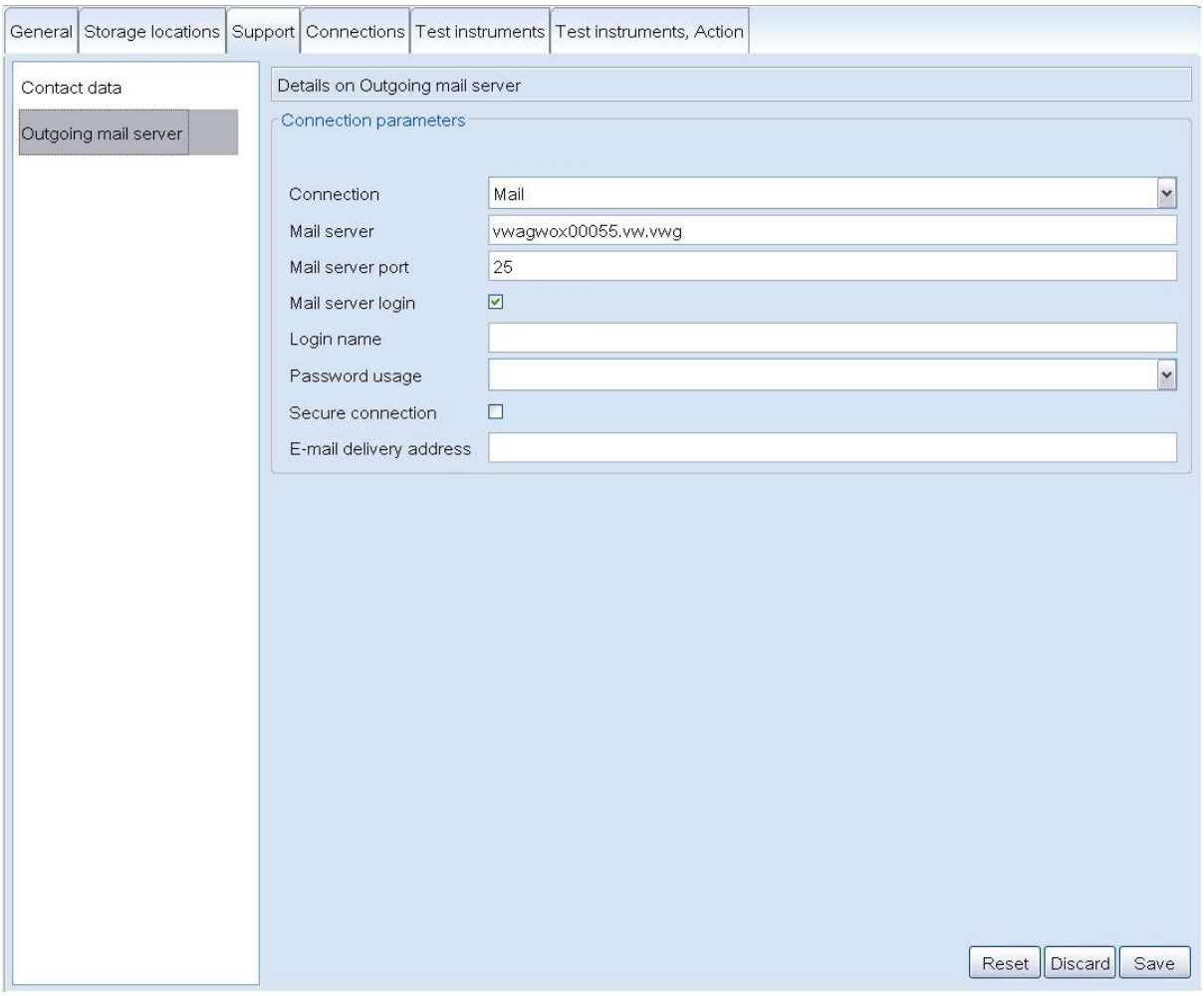



**Figure 11.19. Outgoing mail server view**

The following is set in Outgoing mail server details under **Connection parameters**:

- **Connection:**

  An e-mail is sent with every feedback - **Mail setting**,

  The feedback is stored temporarily and locally - **QUEUE setting**.

  If you switch from the QUEUE setting to the Mail setting, **Offboard Diagnostic Information System Service** sends the temporarily saved e-mails with the next feedback.

- **Mail server:** The name of the mail server
- **Mail server port**: The port of the mail server
- **Mail server login**: Set a tick here if login to the mail server is requested.
- **Login name**: The login name for the mailbox entered here is automatically entered in the Login window during login.
- **Password usage**:

The password is saved until **Offboard Diagnostic Information System Service** is **closed**. If the password is to apply until **Offboard Diagnostic Information System Service** is closed, on sending the message a login window opens, in which the login name and the password are entered by default.

The password only applies to the **next feedback transmission**.

- **Secure connection** If the mail server requests SSL or TSL, a tick must be set here.
- **E-mail transmission address**: You can enter your own sender address here. That is necessary if the support team is to send a reply to this address.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

If the e-mail is sent via the **mail server** of a **provider**, the provider's specifications need to be entered. The provider provides the necessary data, such as mail server address, SMTP port and security settings. For login, the login name must be used for the mailbox and the password that was assigned.

If there is a separate network with **its own mail server**, it must be configured for**SMTP** (Simple Mail Transfer Protocol). An old mail server, which does not support this protocol (e.g. older versions of Microsoft Exchange), cannot be used. The administrator of the mail server provides the necessary data for the configuration of the outgoing mail server.

**Reference:**

See also "Support" chapter

**Note:**

The configuration entries for the mail server must be entered precisely according to the specifications. Free text, such as mail server information and mail transfer address, is not checked. Faulty entries will cause feedback transmission errors.

The outgoing mail server **does not support** the use of a **proxy server** for access to the internet.

If security software is used, such as a **firewall** or **anti-virus protection**, make sure that it doesn't block the mail server or the ports used.

The **size limit** set on the mail server for e-mails must be observed. Your provider or mail server administrator can give you the required information. The size limit might need to be adjusted, if this is possible. If a feedback mail exceeds this size limit, it will not be sent. Feedback mails with attached files may have a size of 2MB to 5MB.

Backend mail transmission is implemented by the *JavaMail* standard software library. If transmission errors occur in this software, only the English original text can be displayed in error messages. In this case, reference to the original text of the error message is made. There are exceptions:

If the mail server is not entered correctly, login is displayed with **error message ODS9102E** with a reference to the unknown mail server.




**Figure 11.20. Error message for incorrect mail server**

The user name and password can be re-entered.

**Apply:** User name and password are accepted.

**Cancel:** Login is cancelled.

If a syntactically incorrect sender address is entered, login appears with **error message ODS9105E** with a note on the invalid sender mail address.




**Figure 11.21. Error message for incorrect sender mail address**

The user name and password can be re-entered.

**Apply**: User name and password are accepted.

**Cancel:** Login is cancelled.

# 11.5. Connections area

**Connections / brand settings**

How each Group brand connects to the Group system, via CPN or Internet, can be set here.

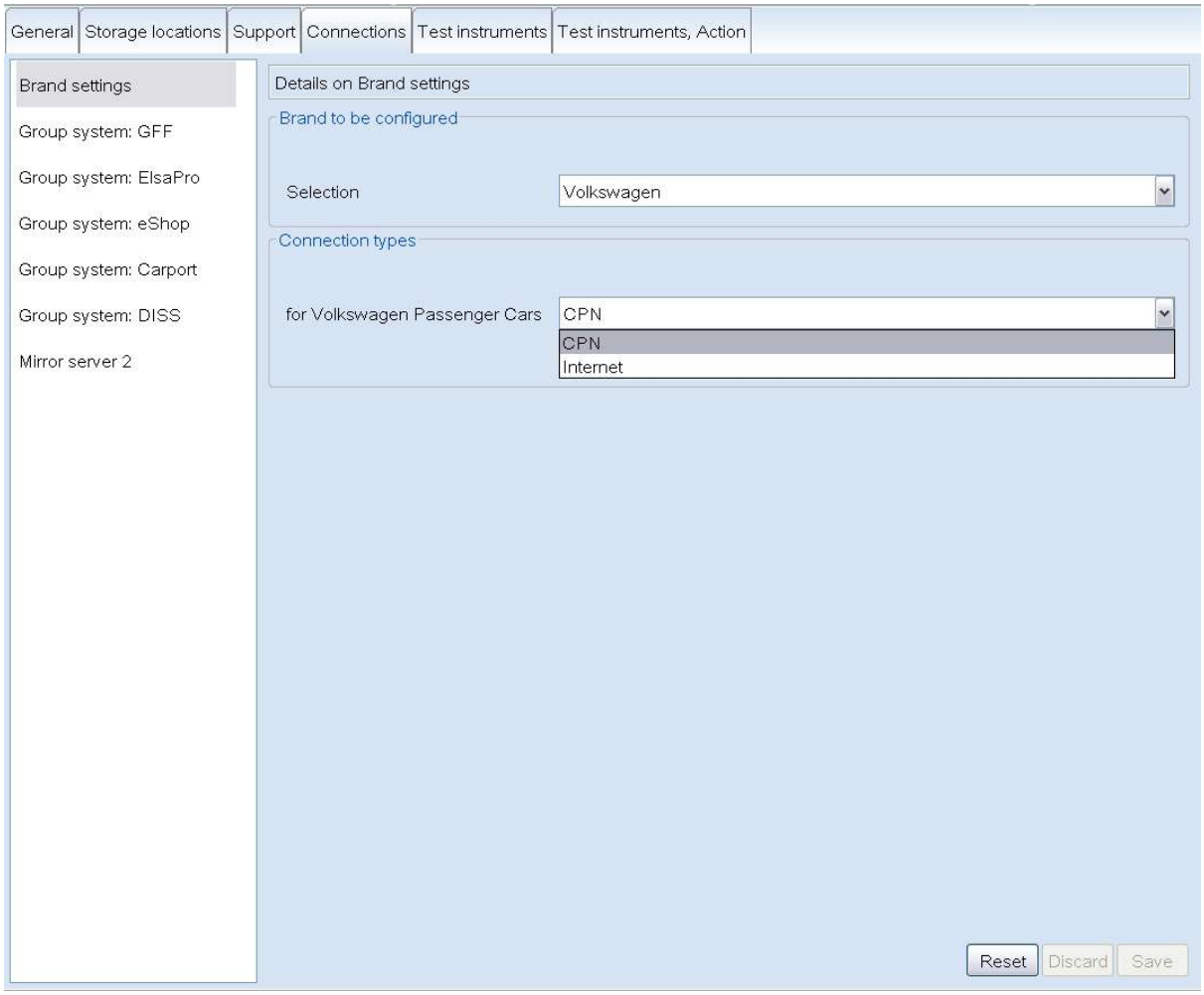



**Figure 11.22. Brand settings view**

**Brand to be configured**: The brand can be selected from the **Selection** list for which the settings are to be defined in the following views on the **Connection types** tab. Only the brands licensed for the tester are available in this brand selection.

**Connection types**: Whether a Group system service is called via a **CPN** or an **Internet address** is selected here. This setting can be defined individually for each brand.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

**Note:**

The predefined addresses for Group system services may only be changed after consulting the support team of the corresponding brand. Otherwise, access is not possible.

### Connections / Group system: GFF

The network addresses of the group services accessed by **Offboard Diagnostic Information System Service** can be configured in this area.

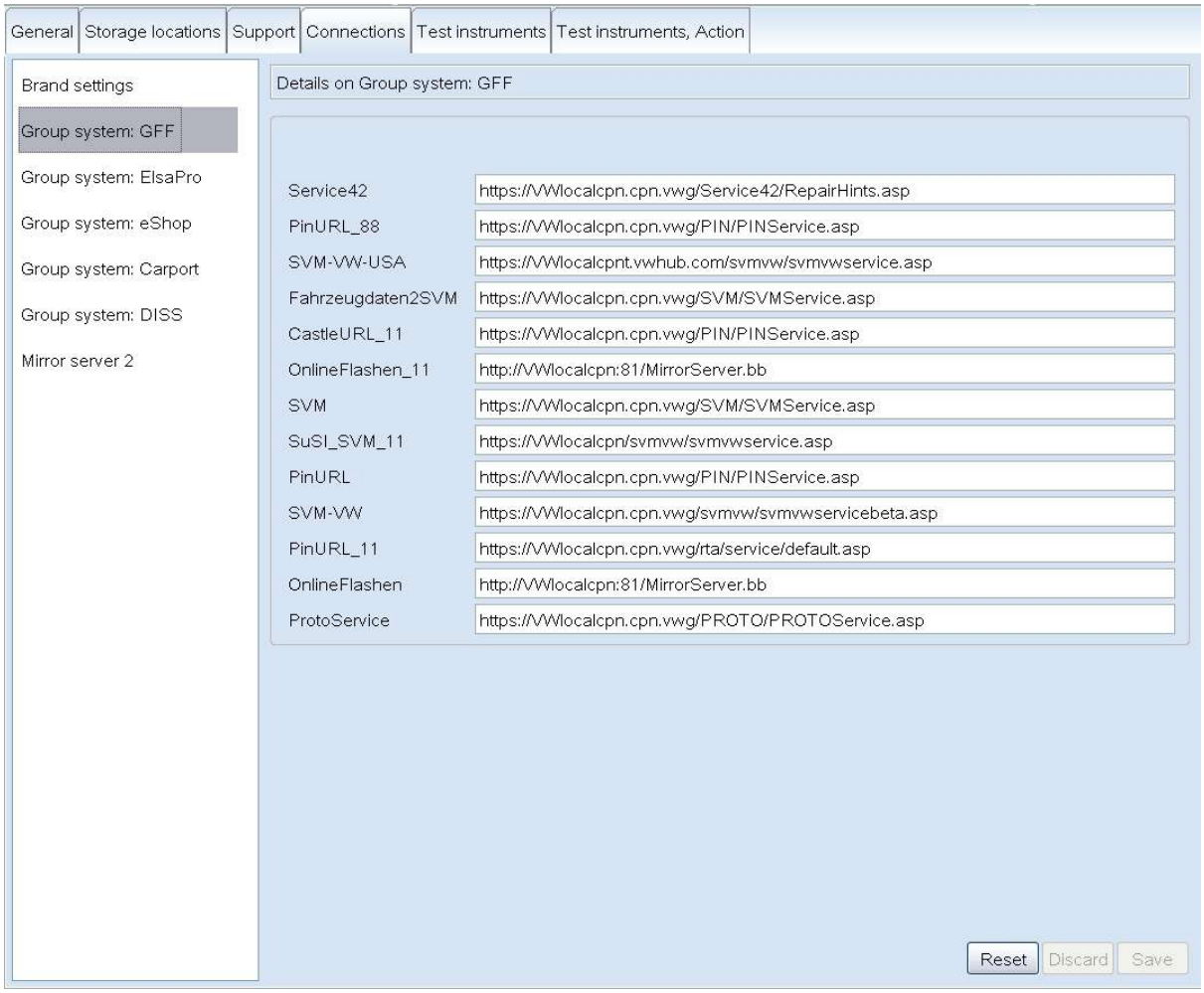



**Figure 11.23. Group system: GFF view**

The **Group system details: GFF** view lists all service addresses used in GFF test programs, the URLs of which can be entered:

- Pin Service
- SVMService
- RepairHints
- ProtoService



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

Offboard Diagnostic Information System Service specifies addresses for these services.

**Note:**

If incorrect addresses are entered here, GFF test programs will not be able to access the necessary Group systems and can therefore not be executed successfully.

### Connections / Group system: ElsaPro

The access data for services of the **ElsaPro** Group system is configured here.

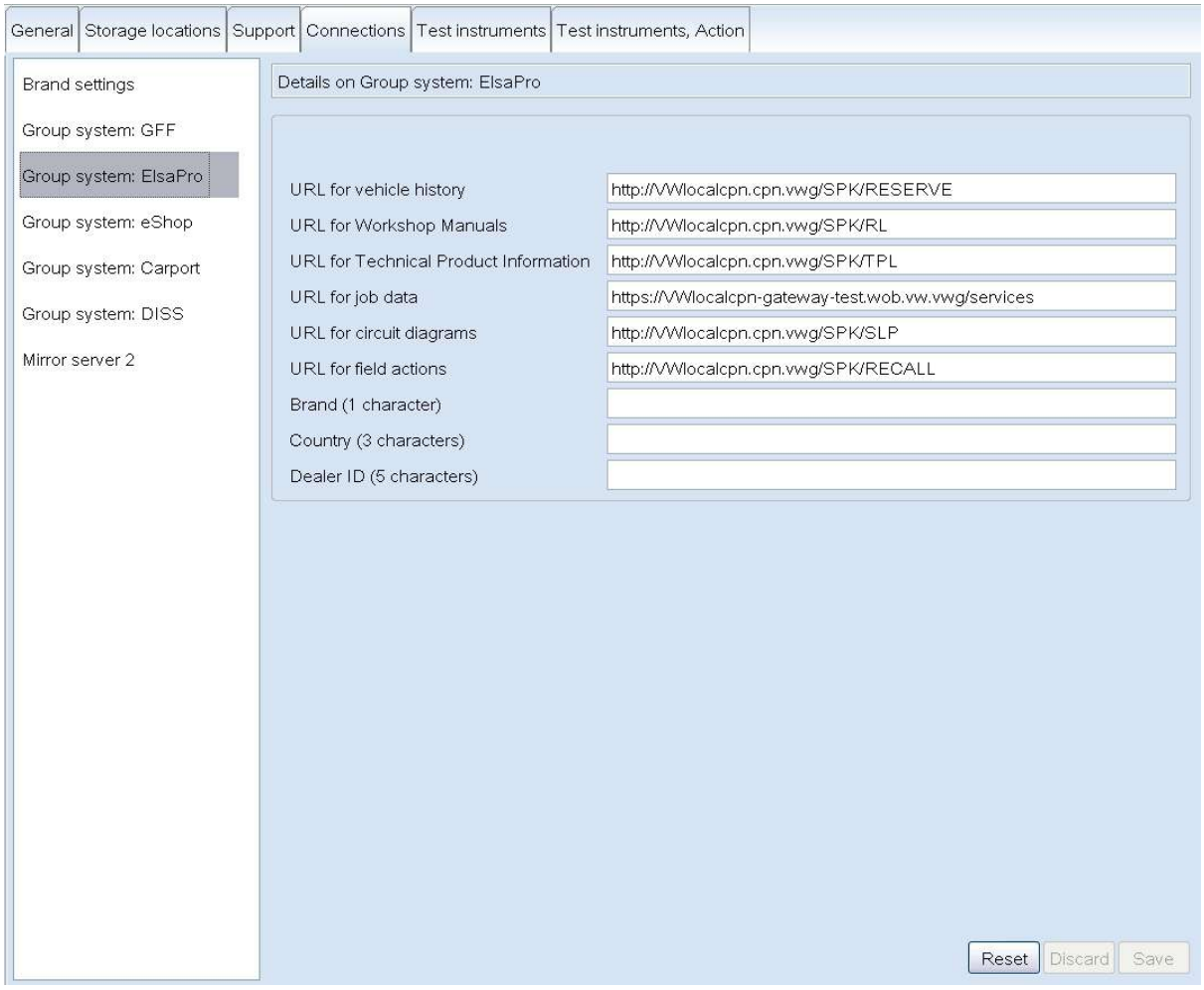



**Figure 11.24. ElsaPro Group system view**

To be able to display data from ElsaPro in **Offboard Diagnostic Information System Service** the **URL**s for

- Vehicle history,
- Workshop manuals,
- Technical product information,
- Circuit diagrams
- Field actions

need to be entered under **Group system details: ElsaPro**.

The data required to log on to the Group systems,

- Brand (1 character)
- Country (3 characters)
- Dealer ID (5 characters)

is taken from the licence and only displayed here.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

**Note:**

If these entries are not correct, either the **ElsaPro** data cannot be accessed or the required login to the Group systems will fail.

### Connections / Group system: Carport

The address for connecting to the carport Group system is configured in this area. **Offboard Diagnostic Information System Service** specifies an address.

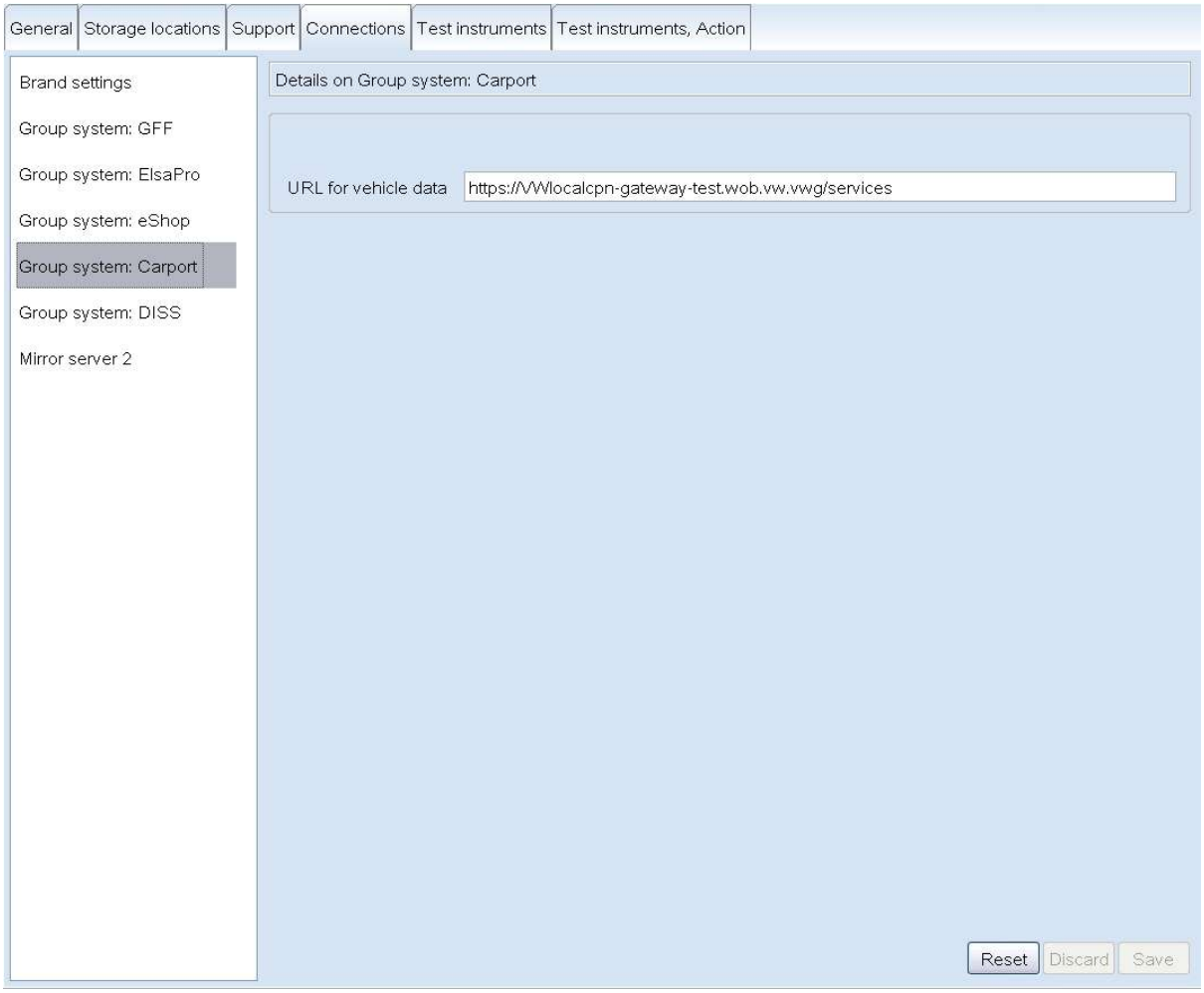



**Figure 11.25. Carport Group system view**

The **URL for vehicle data** via which this service is accessed is entered under **Group system details: Carport**



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

**Note:**

If the URL is not entered correctly, the Carport service cannot be accessed and no vehicle data is available.

### Connections / Group system: DISS

The address for connecting to the Group system, DISS, is configured in this area. **Offboard Diagnostic Information System Service** specifies an address.

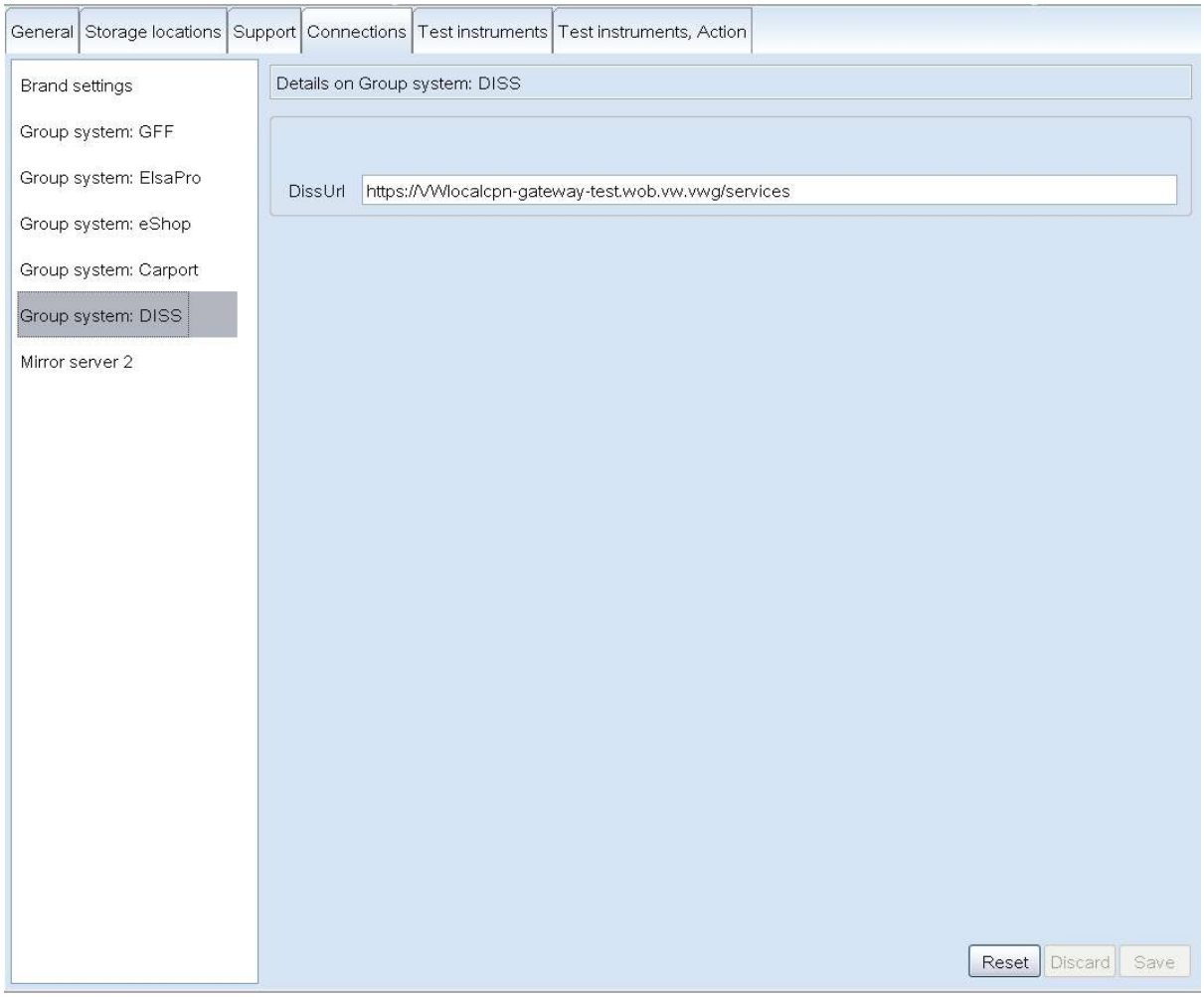



**Figure 11.26. Group system DISS view**

The **DissUrl** for the Group system, DISS, via which complaints are transferred, is entered under **Group system details: DISS**.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

**Note:**

Without a correct URL for DISS, no complaints can be displayed from the DISS system or assigned TPI.

### Connections / Group system: eShop

The address for connecting to the Group system, eShop, is configured in this area. **Offboard Diagnostic Information System Service** specifies an address.

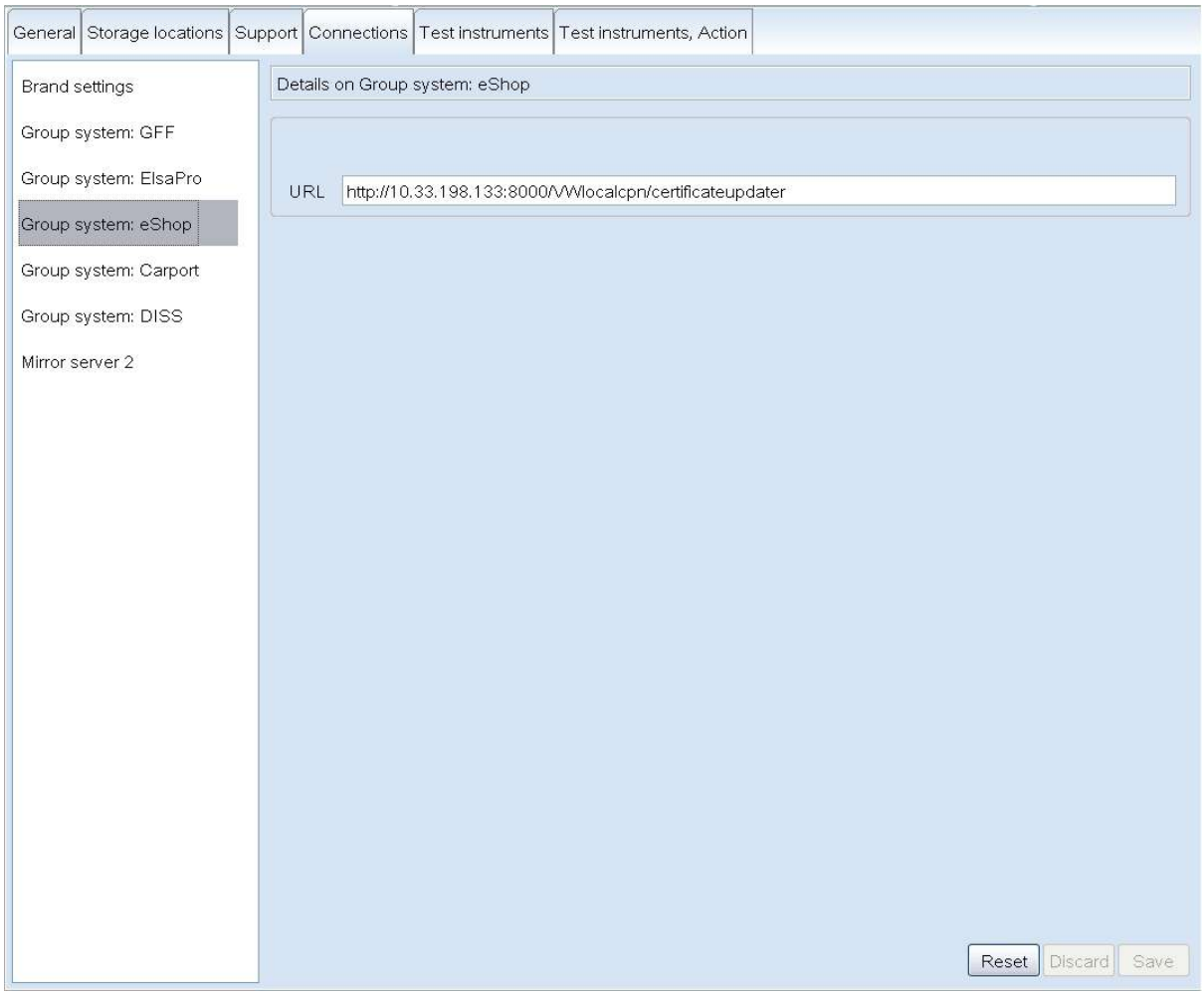



**Figure 11.27. Group system eShop view**

The **URL** for the eShop service for the automatic renewal of licences acquired via eShop is entered under **Group system details: eShop**.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

**Note:**

Without the correct URL for the eShop licence update service, automatic licence renewal via **Offboard Diagnostic Information System Service** is not possible. Without automatic renewal, the licence that will expire must be re-ordered via eShop.

### Connections / mirror server 2

**Offboard Diagnostic Information System Service** obtains files for updates and external verification from mirror server 2.

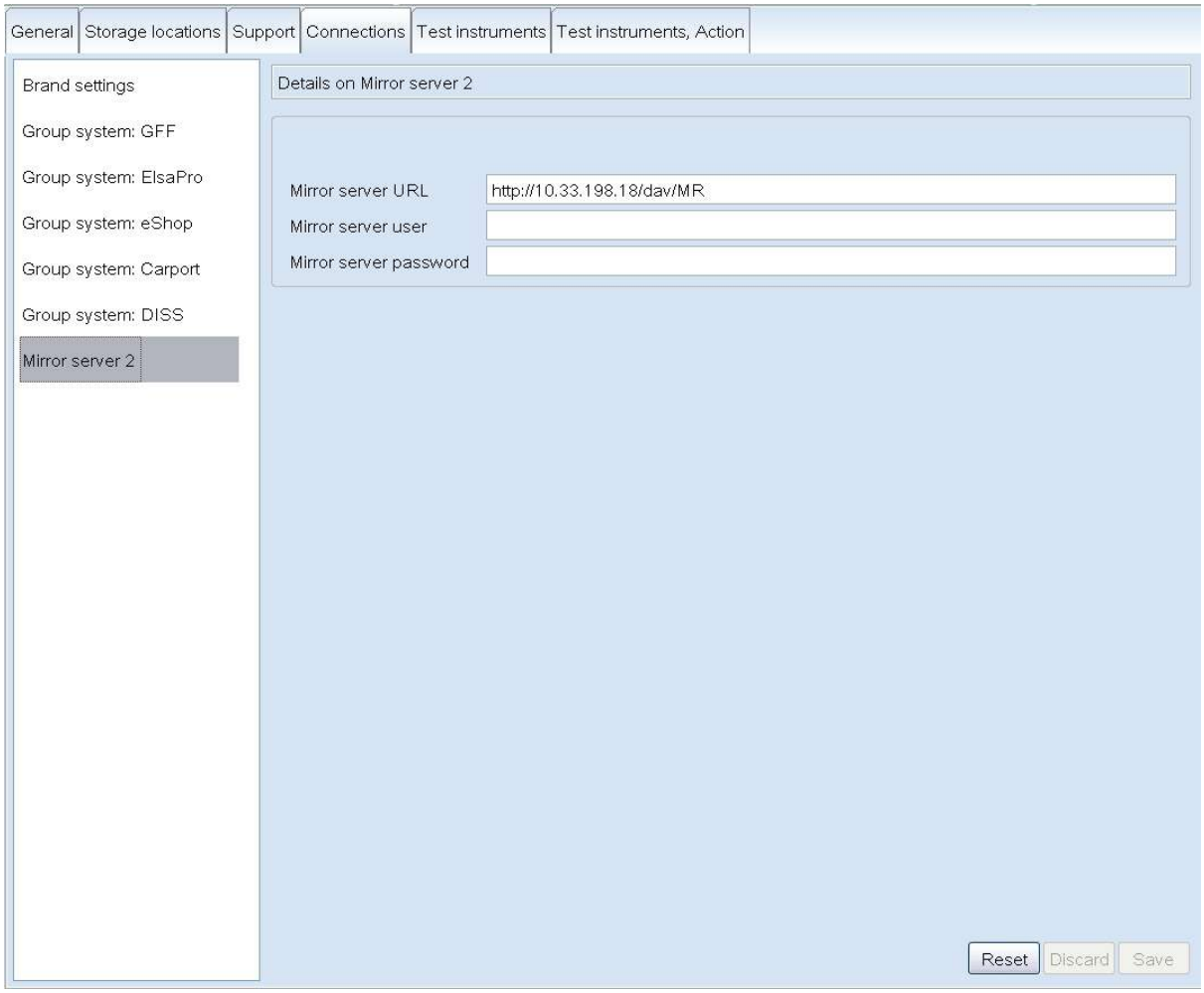



**Figure 11.28. Mirror server 2 view**

The address of the **local mirror server** is entered in the **Mirror server URL** field that was configured locally for the workshop.

Entries only need to be made in the **Mirror server user** and **Mirror server password** fields if the local mirror server was configured during login. The local administrator provides this information.



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

# 11.6. Verification area

**Verification / configuration**

This setting is used to configure the additional **external verification** function. This setting option is only available if **Offboard Diagnostic Information System Service** was purchased with this feature.

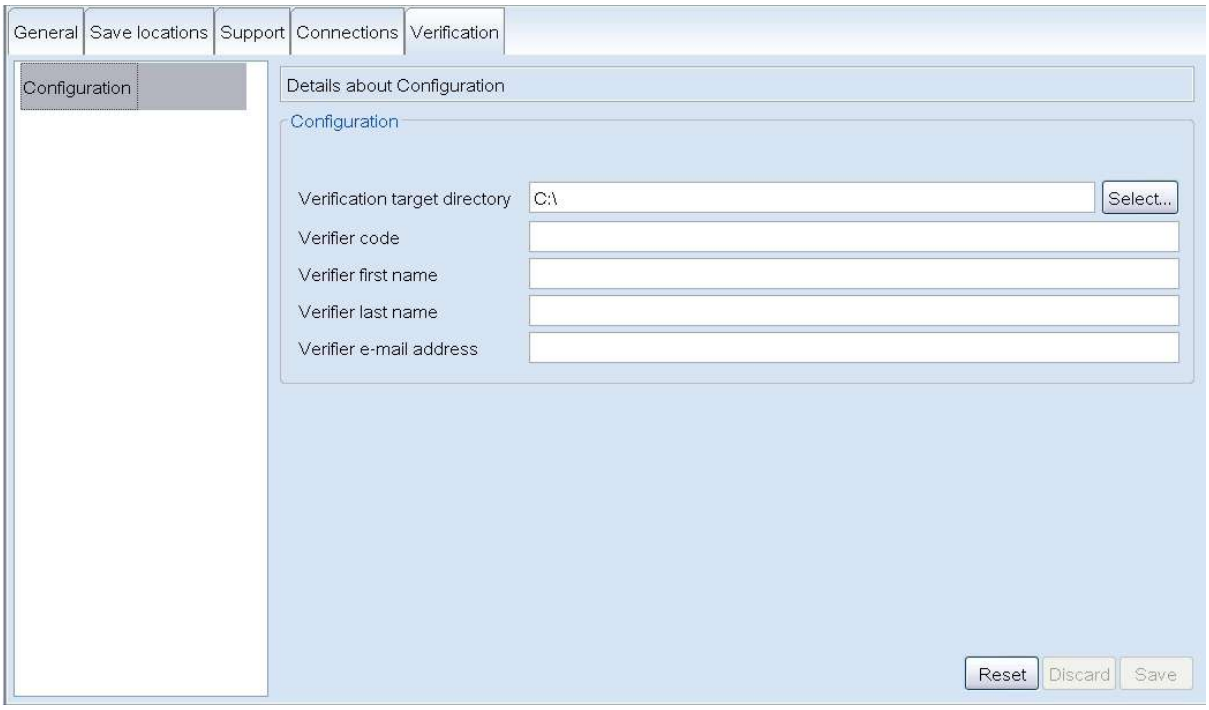



**Figure 11.29. External verification view**

**Select:** In **Configuration details** under **Configuration**, this button is used to specify the **verification target directory** in the Windows file system. That is the default directory for saving **verification data** provided from GFF editors via mirror server 2.

Data on the **tester** editing the verification data is entered in the other fields:

- Initials of tester
- First name of tester
- Surname of tester
- E-mail address of tester



To reset previously saved changes to the default state, click on the **Reset** button.



To reset changes to the default state that have not yet been saved, click on the **Reject** button.



To save your changes, click on the **Save** button.

If the Verification tab is activated for the first time during a diagnostic session after starting **Offboard Diagnostic Information System Service**, a login dialogue is displayed, in which the tester's data needs to be entered. This login dialogue contains the data entered and saved here as the default values.

**Note:**

The external verification configured here can only be used if a corresponding **Offboard Diagnostic Information System Service** licence has been acquired. A **verification point** must be specified in this licence, which must correspond to the **tester** specified here.

# Chapter 12. Additional program functions

This chapter describes those functions that are available across all different modes.

These additional program functions or standard functions consist of three menus:

- The **Data** menu
- The **Extras** menu
- The **Help** menu

## 12.1. Data

The **Data** menu contains the following four function areas:

- Current view
- Diagnostic protocol
- Diagnostic session
- Hotfix.




**Figure 12.1. Data button**

**Note:**

After an **Offboard Diagnostic Information System Service** software or data update, the diagnostic session data of a predecessor version cannot be loaded any more since software version and DIDB version deviate. To resume an interrupted diagnostic session by loading the diagnostic session data, the **software** and **DIDB versions must** match.

**Reference:**

See "System environment" in the Administration chapter.

## 12.1.1. Current view

**Current view**:



Click on this button to create and print a screenshot of the current view. The operating system's standard selection window opens for selecting the printer. If a view is empty, e.g. a tab without content, this button is greyed out.

## 12.1.2. Diagnostic protocol

**Diagnostic protocol:**



Click on this button to send the current diagnostic protocol to Volkswagen. For this, an online connection and login to the Group systems are required. If no such connection is currently available, the data is stored temporarily and sent the next time the Group system is available after logging on to the Group systems. In addition, the diagnostic protocol is stored at the storage location for diagnostic protocols as file with the extension **.b64** for external transmission.

Reference:

See chapter "Login to Group systems".



Click on this button to save the current diagnostic protocol. The Windows dialogue appears for saving files.

The **DiagnosticProtocols** subfolder in the **Offboard Diagnostic Information System Service** directory is proposed as the storage location. The diagnostic protocol is saved in html format and can be viewed in the web browser. This button is enabled after performing diagnosis.



Click on this button to print the current diagnostic protocol after selecting the scope of the protocol. A print menu appears. Select the printer. This button is enabled after performing diagnosis.

Three different scopes are available to send, save and print the saved protocol.

1. The **long protocol** type includes the entire data of a diagnostic session.

2. The **short protocol** type includes the entire vehicle-specific data of a diagnostic session, without GFF data.

3. The **function test protocol** type includes the GFF data of a diagnostic session.

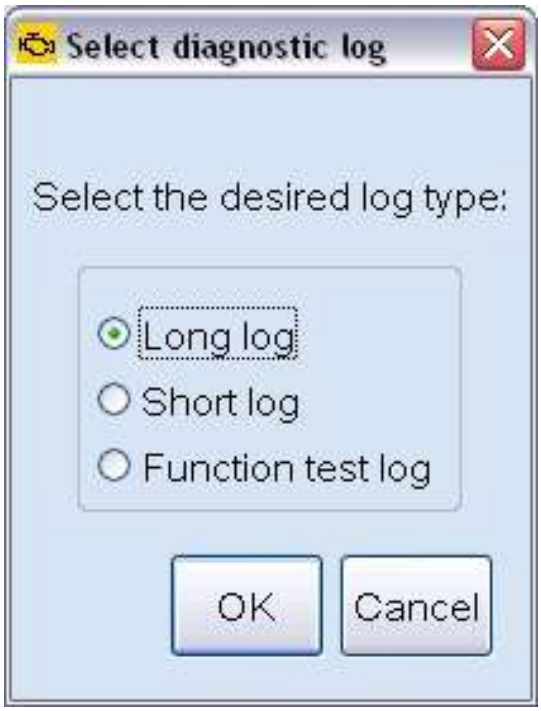



**Figure 12.2. Selecting the diagnostic protocol**

**OK:** The selected protocol type is printed or saved.

**Cancel:** The selection of the protocol type is cancelled and the window is closed.



Click on this button to open a Help window in the folder with the stored diagnostic protocols. A diagnostic protocol that has already been saved as Html and XML or possibly as file with the extension .b64 can be copied here. A b64 file can thus be copied to an external storage medium, such as a USB stick, to send it from another tester.



Click on this button to open a Windows file window for opening a *.**b64** file. This function can be used to load a diagnostic protocol in b64 format from an external storage medium, such as a USB stick, and then send it to Volkswagen, if the Group system connection is not available at the original tester. This button is already available after starting the application.

## 12.1.3. Diagnostic session

**Diagnostic session:**



Click on this button to save the current diagnostic session to the **sessions** subfolder and resume it later on. This button is enabled **after** performing a diagnosis.

⇨ Reference:

See next chapter "Repair interruption".



Click on this button to load a previously saved diagnostic session into **Offboard Diagnostic Information System Service**. This button is only available directly after starting the application, **before** performing a diagnosis.

⇨ Reference:

See next chapter "Continuing a repair".

### 12.1.3.1. Repair interruption

Diagnostic sessions can be interrupted and restarted for a **repair interruption**. The menu with the buttons is described in detail above.

⇨ Reference:

See also chapter "Data"

**Note:**

The **vehicle state**, i.e. the state of the control units (addressability, identification data and event memory entries), must not be changed between the saving and loading of the diagnostic session data.



This button is used to interrupt the diagnostic session. **Offboard Diagnostic Information System Service** then opens the **Stop** query.

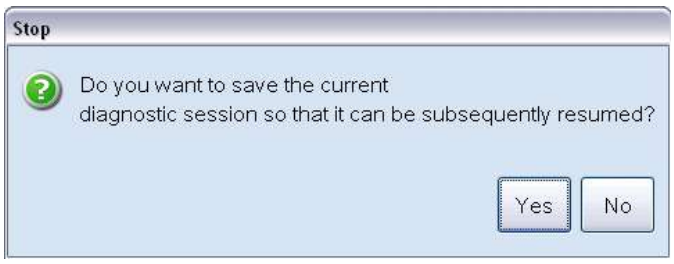



**Figure 12.3. Query if a diagnostic session is cancelled**

**Yes**: The storage location defined in the administration settings is proposed as the storage location.

**No:** Saving the diagnostic session is cancelled.

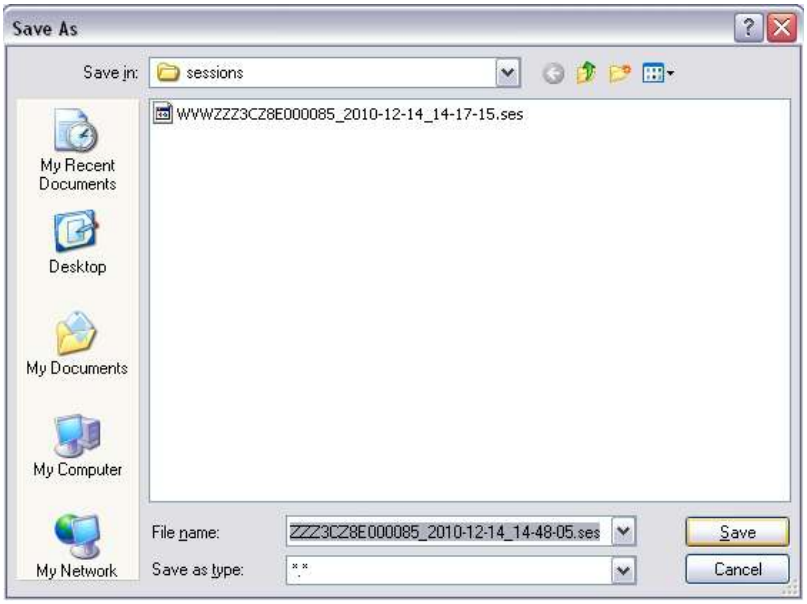



**Figure 12.4. Saving a diagnostic session**

Diagnostic session files have the file extension *.ses.

**Save:** The diagnostic session is saved.

**Cancel:** Saving the diagnostic session is cancelled.

After saving the session, **Offboard Diagnostic Information System Service** asks whether feedback is to be sent.


Send support request
Please select an option.
No warnings or errors detected during the diagnostic session.
Cancel
Send support request

**Figure 12.5. Feedback after saving a diagnostic session**

**Cancel:** The support request is cancelled.

**Send support request:** The support request is sent.

Then the system is back at the start position again.

⇨ **Reference:**

See Administration chapter "Storage locations area".

**Note:**

The diagnostic sessions are saved in the default settings to the test device, thus enabling a diagnostic session to also be resumed or interrupted in test drive mode. If a network path has been entered in the settings, the data will be saved locally during mobile operation and compared when a network connection is available. Changes to the settings for saving data can be made in **Admin** mode.

**Reference:**

See also Administration chapter "Storage locations area".

## 12.1.3.2. Continuing a repair

To continue a repair, the diagnostic session data can be re-applied. The menu with the buttons is described in detail above.

Reference:

See also chapter "Data"

When a diagnostic session is in progress, no other diagnostic session can be resumed, which is why this button is then greyed out. It is only possible to resume diagnostic sessions if diagnostic start-up was not performed.



If you click on the **Continue** button, the Windows dialogue appears for loading a file.

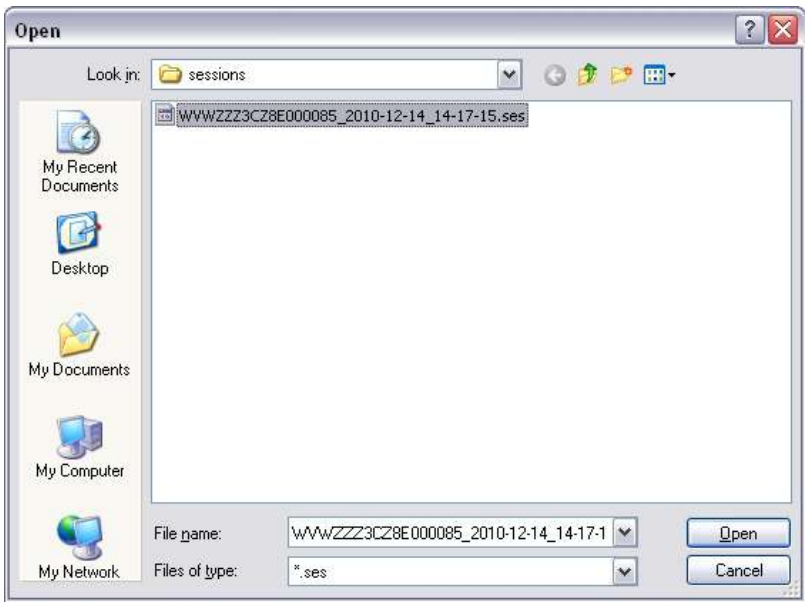



**Figure 12.6. Loading a diagnostic session file**

The desired diagnostic session file must be selected here.

**Open**: The diagnostic session is loaded.

**Cancel:** Loading the diagnostic session is cancelled.

**Note:**

The **vehicle state**, i.e. the state of the control units (addressability, identification data and event memory entries), must not be changed between the saving and loading of the diagnostic session data.

If the vehicle state is changed, **Offboard Diagnostic Information System Service** displays an error message with a note on the modified data.

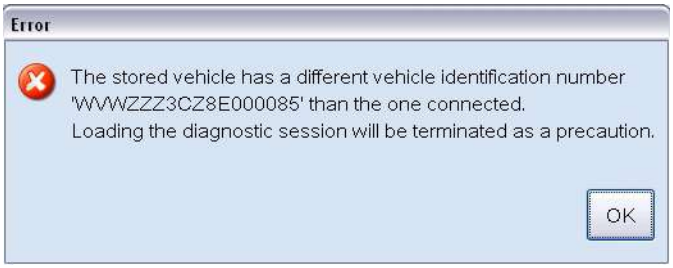

Error
The stored vehicle has a different vehicle identification number 'WVWZZZ3CZ8E000085' than the one connected.
Loading the diagnostic session will be terminated as a precaution.
OK

**Figure 12.7. Error while loading a diagnostic session**

In the example shown above, the VIN of the saved vehicle has changed compared to the vehicle currently connected.

To load a diagnostic session, login to the Group systems is activated.

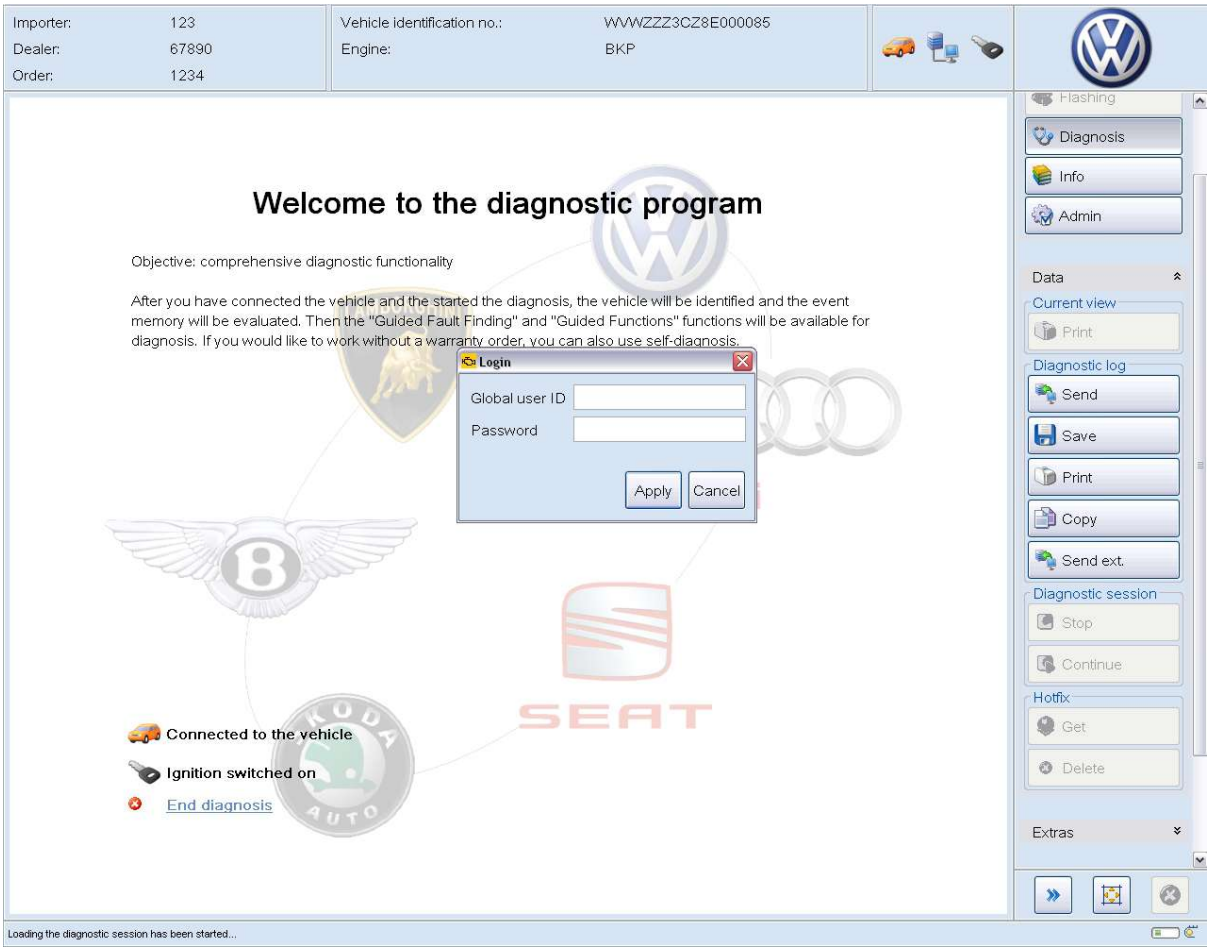



**Figure 12.8. Login while loading a diagnostic session**

If the data from the Group systems is to be used for a resumed session, login is required.

**Apply:** The login data entered (global user ID and password) is accepted and login performed.

**Cancel:** Login to the Group systems is cancelled. No Group system information is available during the loaded session.

**Reference:**

See also chapter "Data"

## 12.1.4. Hotfix

**Hotfix:**



If you click on this button, it is possible to download a hotfix or workshop data patch. A hotfix is provided individually to a dealer (or a workshop) in a special folder on mirror server 2.

Typical hotfix data is diagnostic data or GFF test programs adapted specially for the dealer. Active hotfixes may be overwritten by newer ones.

After activating the Get button, **Offboard Diagnostic Information System Service** searches for the workshop patch under the mirror server 2 address. If it is available, the user is asked whether the patch is to be installed. With a positive confirmation, the patch is installed. Otherwise, the installation can also be cancelled.

If the connection to mirror server 2 could not be established or if no data is found there, a corresponding message is displayed.



If you click on this button, it is possible to delete an installed hotfix or workshop data patch. **Offboard Diagnostic Information System Service** asks the user if the workshop patch is really to be deleted. With a positive confirmation, the patch is deleted. Otherwise, you can also cancel the deletion here.

---

**Note:**

The date of the hotfix update is not saved.

---

# 12.2. Extras

The following functions are available in the Extras menu of the standard functions:




**Figure 12.9. Contents of the Extras menu**

- Search function (Find)
- Vehicle Communication Interface (VCI)
- Test drive

## 12.2.1. Search

**Search:**



The search function is opened using the **Find** button.


The magnifying glass symbol can also be used to open the search function from the **Overview of tests**.

**Reference:**

See also "Component selection" chapter.

After clicking on the button or magnifying glass symbol, the search dialogue appears, which is empty on opening it for the first time during a diagnostic session. When opened the next time, the last search result is displayed by default.

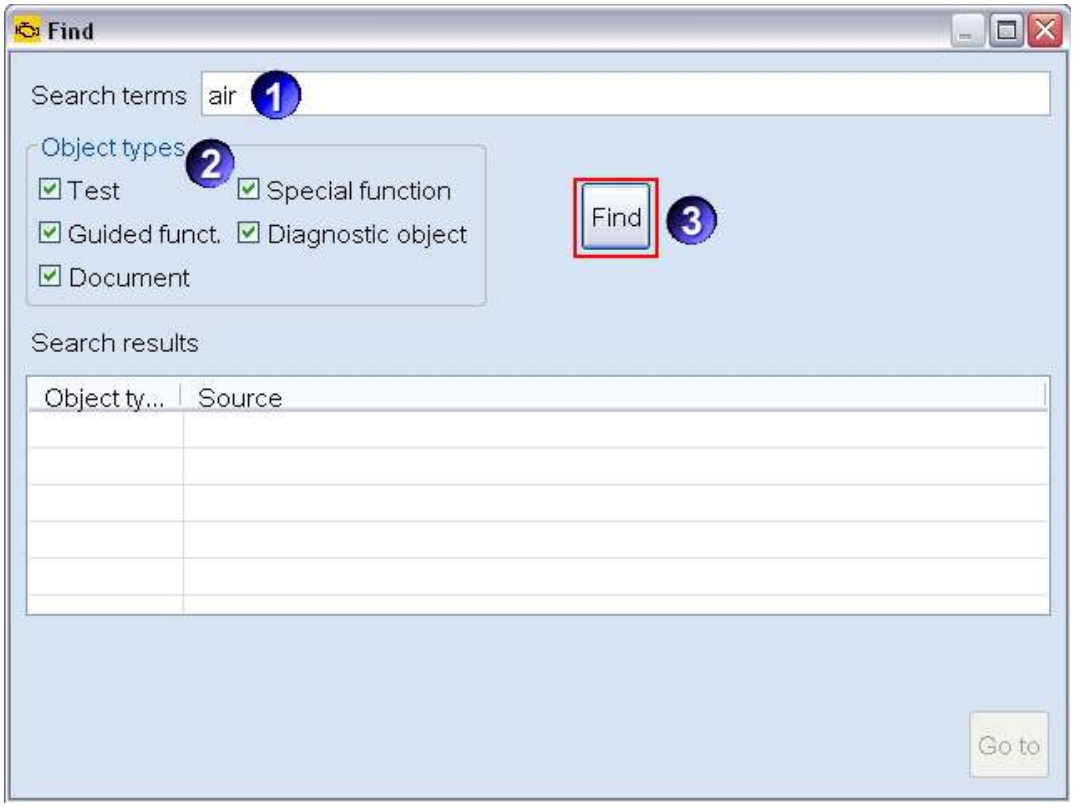



**Figure 12.10. Dialogue for the search function**

1 **Search terms:** One or more search terms can be entered in this text field. Several search terms need to be separated by commas.

2 **Object types**: The search can be limited to specific types here, such as **test programs**, **documents**, **diagnostic objects**, **special functions** and **guided functions**. At least one object type must be selected.

⇨ **Reference:**

See also chapters "Using GFF", "Documents", "DISS/TPI", "Test plan and special functions" and "Self-diagnosis".

3 **Find**: This button is enabled if a search term is entered and at least one object type has been selected. After activating it, the results are displayed under **Search results**.

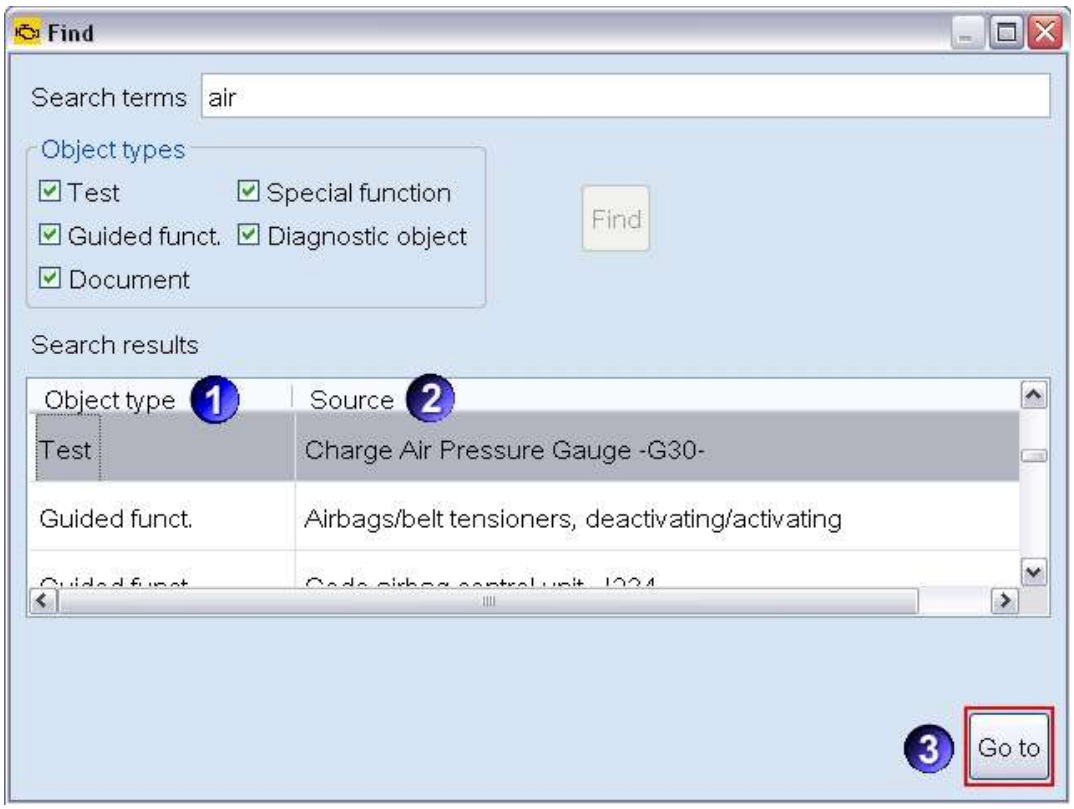



**Figure 12.11. Displaying the search results**

The results are sorted by 1 **object type** and 2 **source**.

3 **Go to:** To go to the corresponding result or add the object type that has been found to the test plan, select the corresponding entry. Then this button is enabled. Click on the **Go to** button to open the marked objects.

A **document** is displayed in the document view.

A **guided function** is started during the process.

A **test program** is attached to the test plan.

With a **diagnostic object**, an existing test is attached to the test plan.

A **special function** is added to the special functions.

The following figure shows a search result.

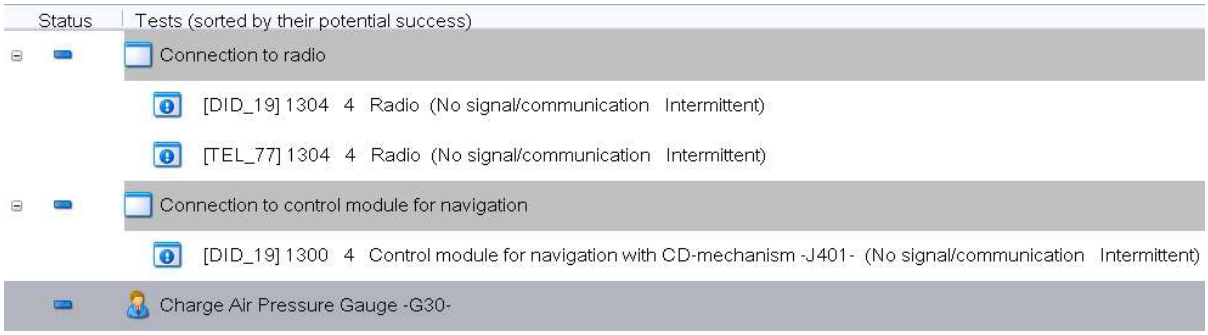
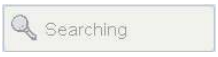

Status
Tests (sorted by their potential success)
Connection to radio
[DID_19] 1304 4 Radio (No signal/communication Intermittent)
[TEL_77] 1304 4 Radio (No signal/communication Intermittent)
Connection to control module for navigation
[DID_19] 1300 4 Control module for navigation with CD-mechanism -J401- (No signal/communication Intermittent)
Charge Air Pressure Gauge -G30-

**Figure 12.12. Example of a search result**

The test program "Connection to the air-conditioning control unit" was selected in the search results here and the **Go to** button was clicked on. **Offboard Diagnostic Information System Service** attaches the corresponding test program to the test plan and switches to the test plan view.

**Note:**

The search function will not be active until after diagnostic start-up has taken place. If no diagnostic start-up has taken place, the 

button or the magnifying glass symbol is inactive  and it is not possible to search for object types.

**Note:**

If the search function is started using the **Component selection**, it is only possible to search for the **diagnostic object** object type.

## 12.2.2. VCI

**VCI:**

It is possible to change the diagnostic hardware.

**Note:**

Offboard Diagnostic Information System Service has been prepared for the use of PassThru boxes. The following models can be used with Offboard Diagnostic Information System Service without restrictions:

- Blue Streak Electronics Inc. - iflash Global Programmer
- Dearborn Group - VSI-2534
- Drew Technologies - CarDAQ-Plus
- I+ME Actia GmbH - PassThru+ XS

The PassThru boxes listed have already been configured as diagnostic interfaces in Offboard Diagnostic Information System. For start-up, you only need to connect the respective box to the diagnostic tester via USB port and install the corresponding software package from the Offboard Diagnostic Information System Service installation folder (sub-directory: "drivers").




**Figure 12.13. Changing the diagnostic hardware**

In the **Extras menu** of the standard functions, the dialogue for changing the diagnostic hardware is selected by clicking on **VCI**.

The change is made in several steps:

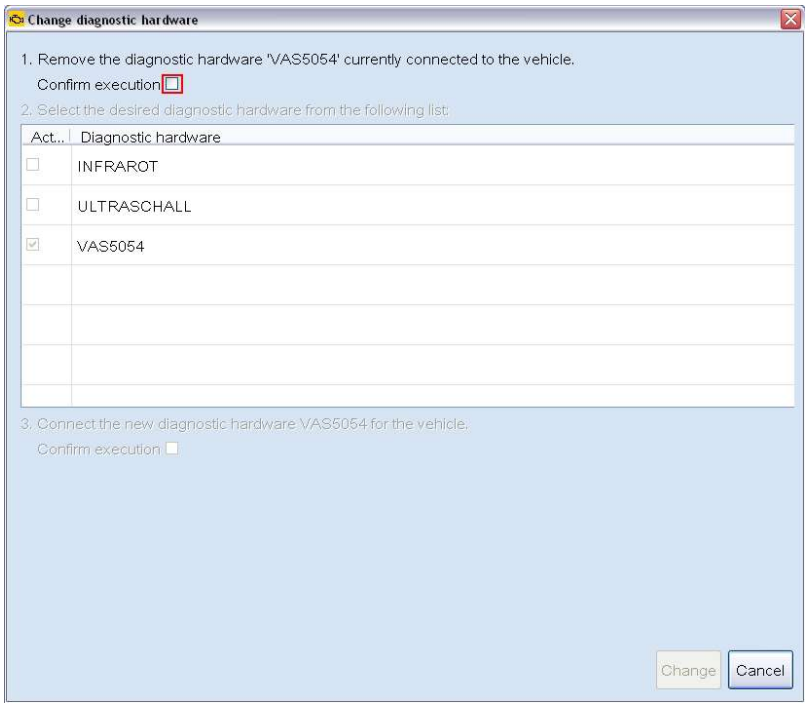



**Figure 12.14. Removal of the diagnostic hardware**

1. Remove the currently connected diagnostic hardware and confirm this in the dialogue box.

**Cancel:** The diagnostic hardware change is cancelled.

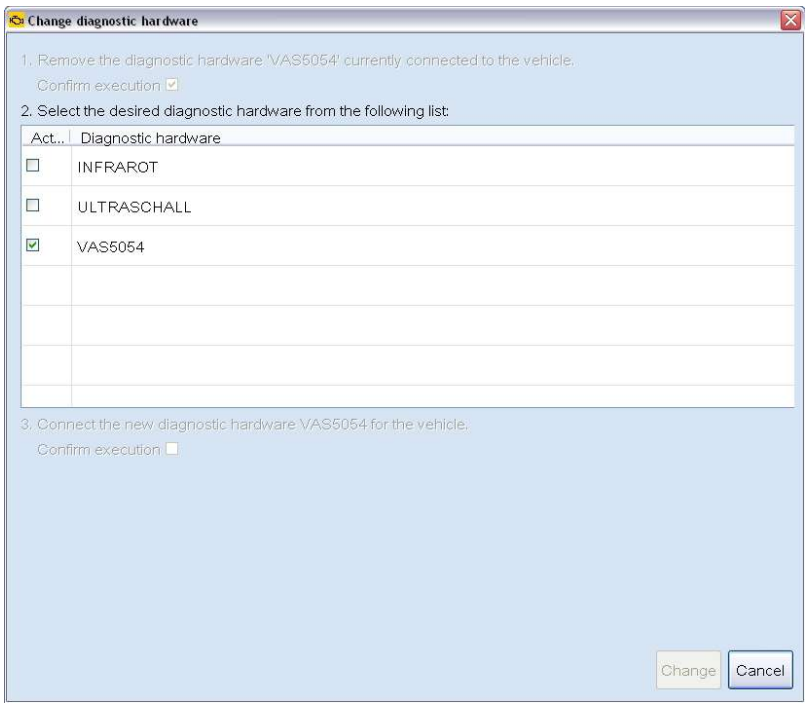



**Figure 12.15. Selection of the desired diagnostic hardware**

2. Selection of the desired diagnostic hardware in the dialogue box

**Cancel:** The diagnostic hardware change is cancelled.

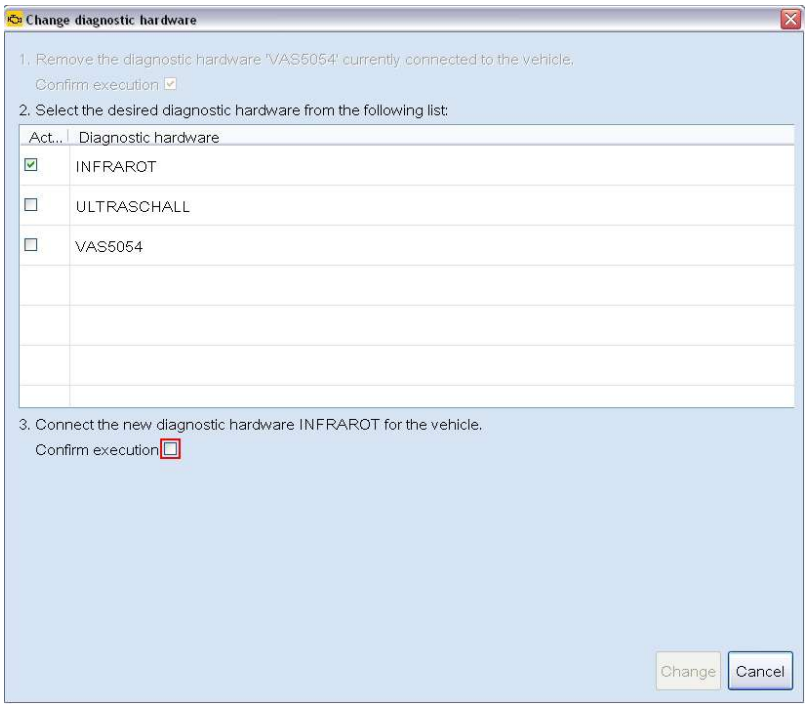



**Figure 12.16. Connecting the new diagnostic hardware**

3. Connecting the new diagnostic hardware to the vehicle and confirming it in the dialogue box.

**Cancel:** The diagnostic hardware change is cancelled.

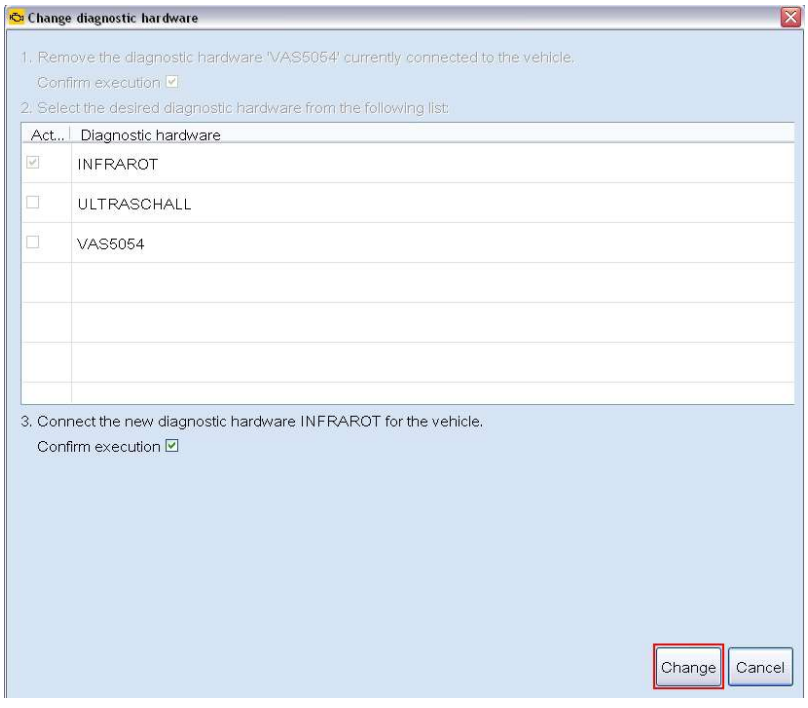



**Figure 12.17. Changing the diagnostic hardware**

4. Clicking on **Change** to confirm the connection of the new diagnostic hardware.

**Cancel:** The diagnostic hardware change is cancelled.

The change is thus completed.

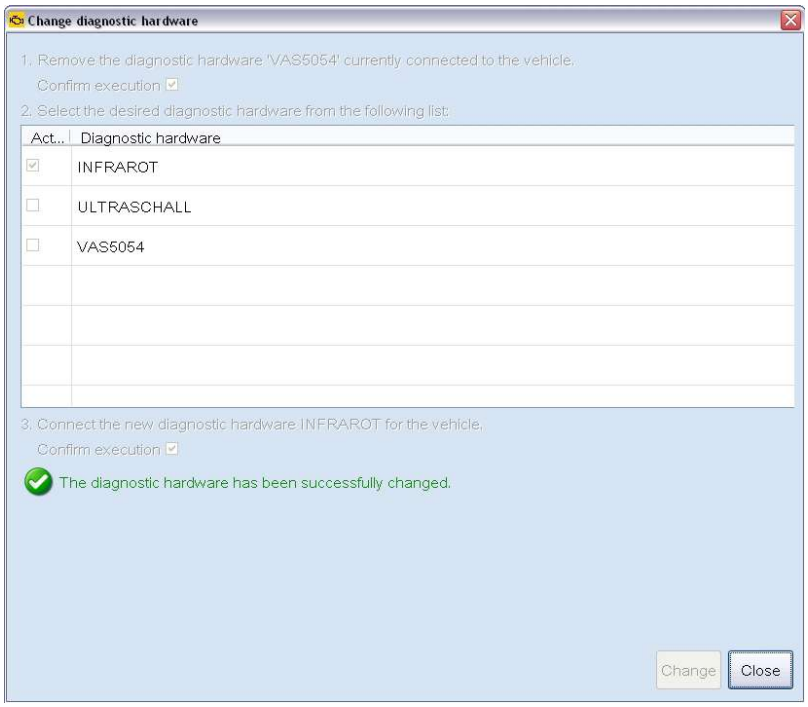



**Figure 12.18. Diagnostic hardware has been changed**

**Close:** The dialogue for changing the diagnostic hardware is closed.

If the change fails, Offboard Diagnostic Information System Service will inform you of this in the dialogue.


Der Wechsel ist fehlgeschlagen.
Eine Fahrzeugdiagnose ist nicht möglich.
Bitte überprüfen Sie die Diagnose-Hardware am Fahrzeug
und führen Sie den Wechsel erneut durch.
Wechseln
Schließen

**Figure 12.19. Changing the diagnostic hardware failed**

**Close:** The window is closed.

If problems occur while changing the diagnostic hardware, please contact Support.

**⇨ Reference:**

See chapter "Diagnostic start-up"

# 12.2.3. Test drive

**Test drive:**

A **Test drive mode** is integrated in **Offboard Diagnostic Information System Service**. Activate this mobility mode if a test drive is being carried out with the vehicle and there is thus no network connection available to the tester.

**Note:**

Mobile operation can only be started and ended when there is a network connection.

The Test drive button has two situation-dependent functions and changes its appearance accordingly:

If the application is not in test drive mode, it is started using this button.

If the application is in test drive mode, it is exited using this button.



Click on this button to start test drive mode.

The following message appears:

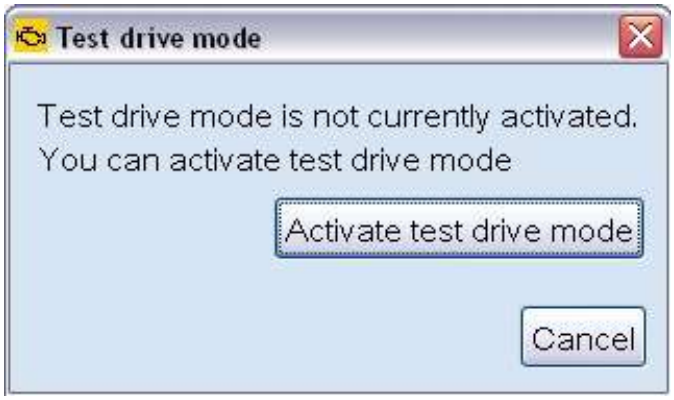

Test drive mode
Test drive mode is not currently activated.
You can activate test drive mode
Activate test drive mode
Cancel

**Figure 12.20. Activating test drive mode**

**Deactivate Test drive mode:**To copy all the required data to the test device, click on this button.

**Cancel:** Activation of test drive mode is cancelled.

After copying has taken place, a message appears stating that **test drive mode** is now activated.

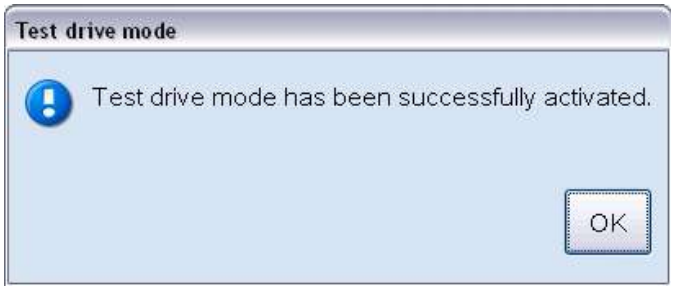



**Figure 12.21. Confirmation that test drive mode is active**

**OK**: Click on this button to confirm the message.

 This symbol is now displayed in the information area, showing that test drive mode is now activated.

The data created during mobile operation is saved temporarily to the test device. It is also possible to send feedback. Feedback messages are stored temporarily until test drive mode has been ended and a network connection re-established. They are sent by the system.



To cancel test drive mode, click on this button.

Test drive mode can then either be cancelled or ended.

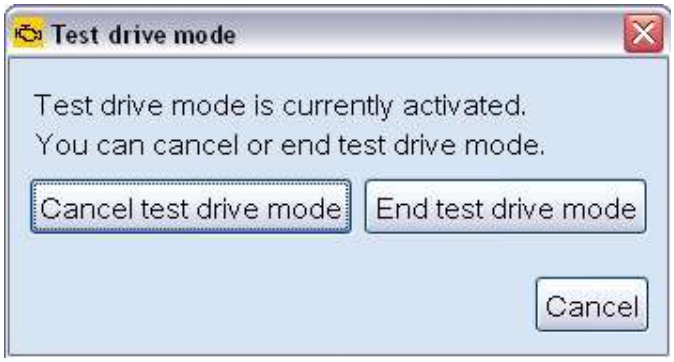

Test drive mode
Test drive mode is currently activated.
You can cancel or end test drive mode.
Cancel test drive mode
End test drive mode
Cancel

**Figure 12.22. Ending test drive mode**

**Cancel test drive mode** If you click on this button, no mobile data is synchronised with the workshop network. The data created in test drive mode will be deleted.

**End test drive mode**: If you click on this button, the mobile data from **Offboard Diagnostic Information System Service** is synchronised with the workshop network and test drive mode is ended.

**Cancel:** Ending or cancelling test drive mode is cancelled and the diagnostic session remains in test drive mode.

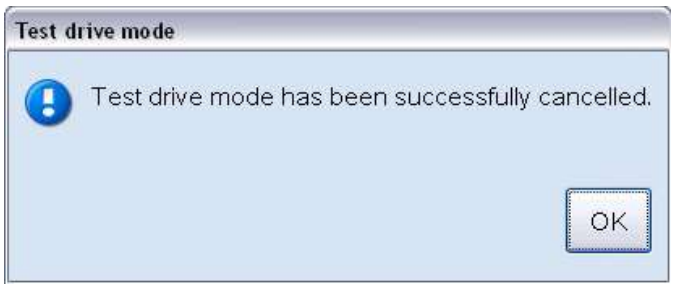



**Figure 12.23. Confirmation that test drive mode has been cancelled**

**Ok:** Cancellation of test drive mode is confirmed.

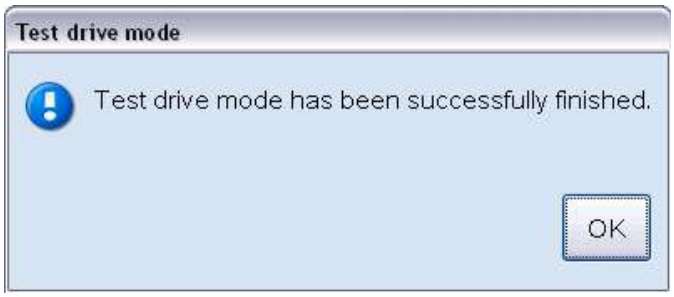



**Figure 12.24. Confirmation that test drive mode has been ended**

**Ok:** Ending test drive mode is confirmed.

The symbols in the information area of **Offboard Diagnostic Information System Service** are displayed here that indicate the status of the network connection and of test drive mode.

 Network connection is available. Test drive mode can be activated.

 Network connection is interrupted. Test drive mode cannot be activated. A network connection must be established first.

 Test drive mode is activated.

 Test drive mode is activated but the network connection is interrupted.

**Note**:

If the directory in which the global configuration is saved to the server is renamed or deleted in test drive mode, a corresponding message does NOT appear when ending test drive mode. **Offboard Diagnostic Information System Service** continues to use the local copy of the configuration. The individual responsible for the network ensures that **Offboard Diagnostic Information System Service** is correctly configured after any changes to the workshop infrastructure have been made.

# 12.3. Help

The Help menu includes these two functional areas that provide the user with support in the event of problems:

- Online help
- Support...




**Figure 12.25. Help menu**

# 12.3.1. Online help

**Online help:**




After clicking on this button, the online help appears in a separate window, in which the help texts are displayed in the context of the application.

The online help can be accessed at all times during operation of **Offboard Diagnostic Information System Service**.

Example: If you have currently opened the **Test plan** tab after performing **guided fault finding** and then click on the help symbol, the online help will open with the corresponding **Guided fault finding** chapter.

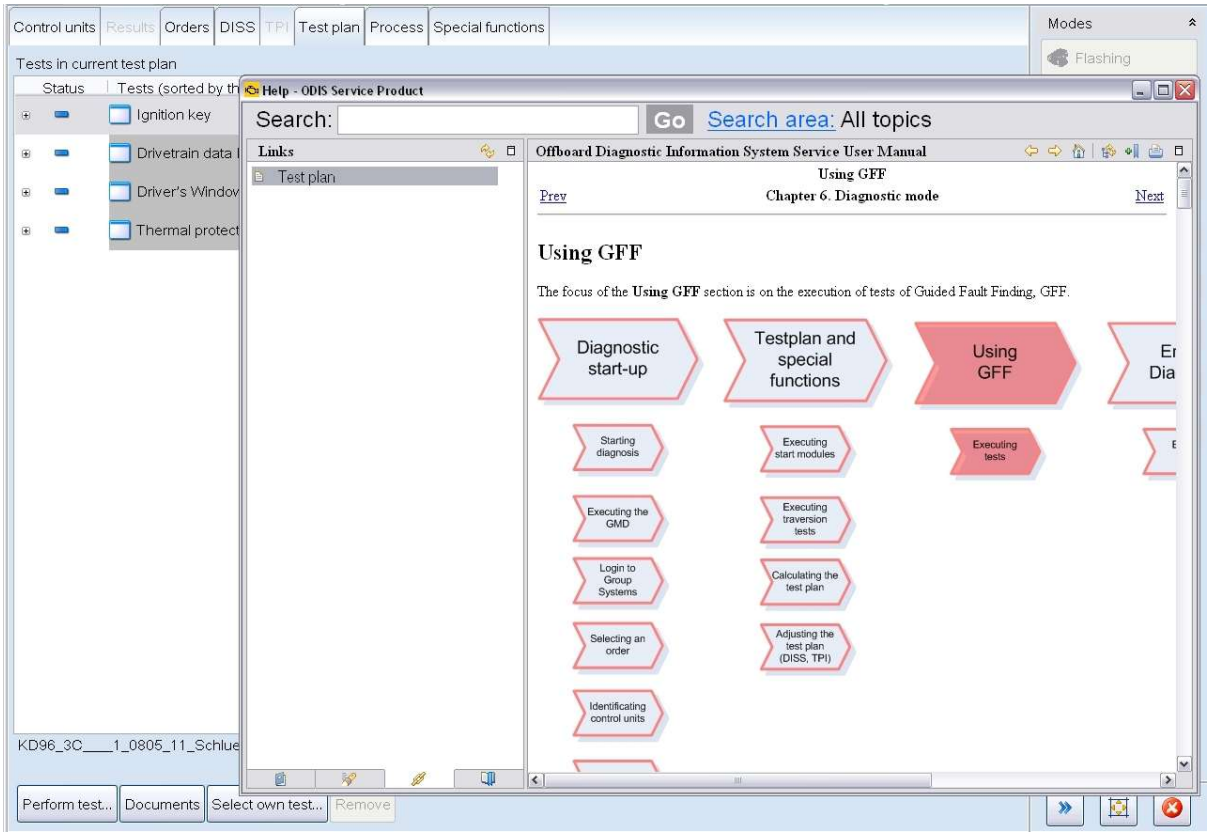



**Figure 12.26. Context-related online help**

A more exact description of the online help window follows.

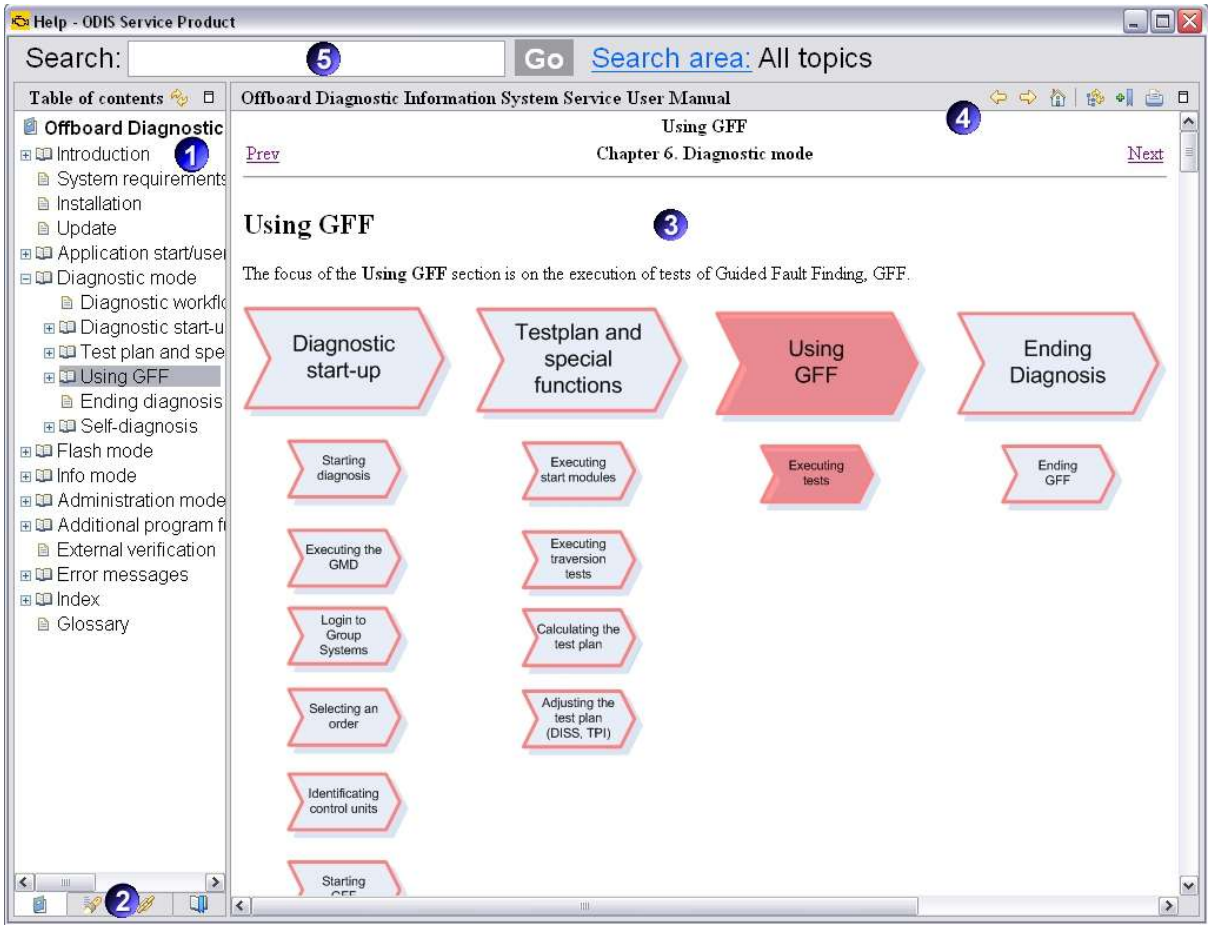



**Figure 12.27. The online help window**

In the left-hand area of the online help (1) you can use the **table of contents** to find the desired chapters.

For navigation in the table of contents and the **search results** there are **navigation symbols** (2) below the window.



The **navigation symbols** can be used from the left to the right to open the **complete table of contents**, to list all **search results** of a search, to display the **current link** and to set a **bookmark**.

In the right-hand area of the online help (3) the desired information is displayed after selecting a chapter. Use the **navigation bar** (4) to navigate in this area.

The **search function** (5) can also be used to search for specific terms in the online help. After entering the search term, click on **Go** to start the search.

You can use links and the navigation bar to move within the right-hand window with the help texts.

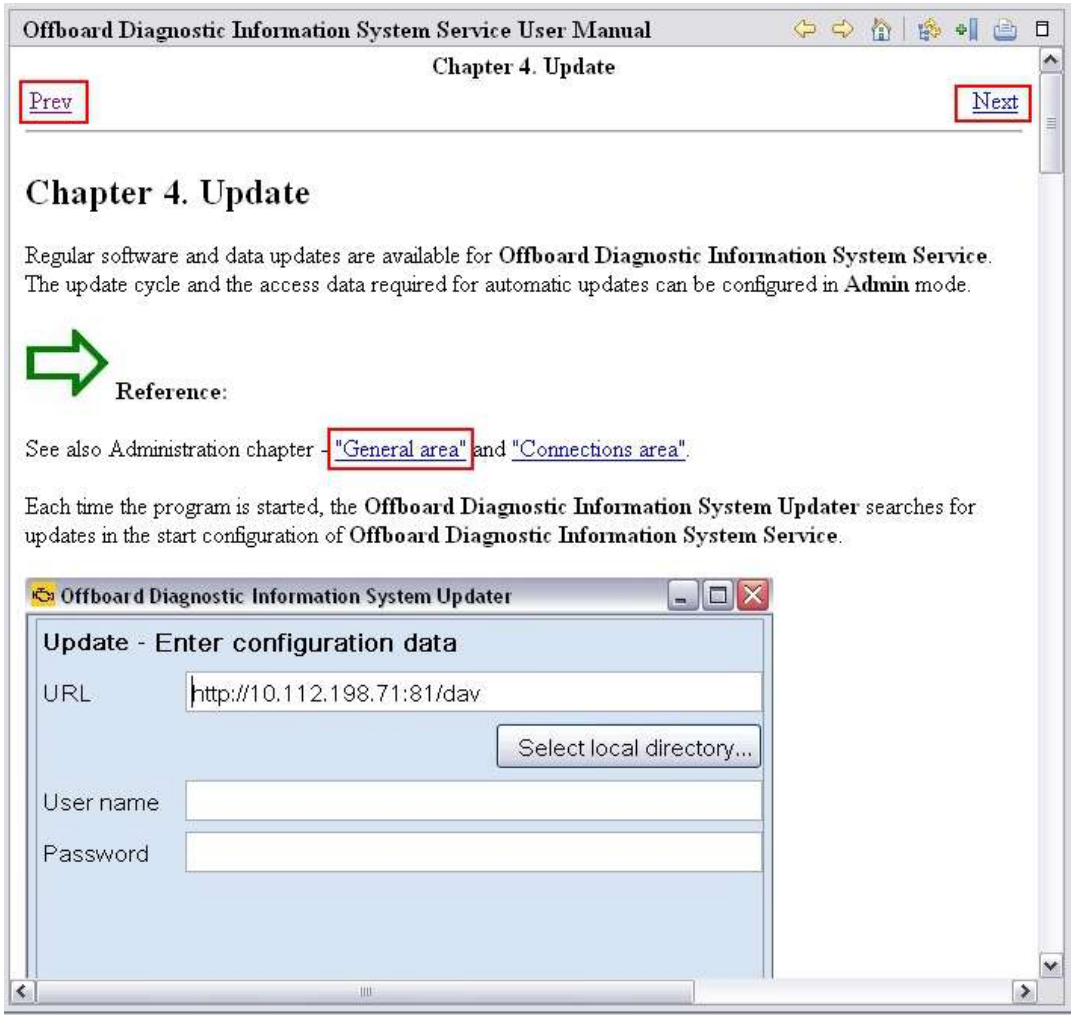

Offboard Diagnostic Information System Service User Manual
Chapter 4. Update
Prev
Next
Chapter 4. Update
Regular software and data updates are available for Offboard Diagnostic Information System Service.
The update cycle and the access data required for automatic updates can be configured in Admin mode.
Reference:
See also Administration chapter - "General area" and "Connections area".
Each time the program is started, the Offboard Diagnostic Information System Updater searches for updates in the start configuration of Offboard Diagnostic Information System Service.
Offboard Diagnostic Information System Updater
Update - Enter configuration data
URL
http://10.112.198.71:81/dav
Select local directory...
User name
Password

**Figure 12.28. Navigation in the online help**

To navigate in the help texts displayed in the area on the right, use the links (shown in blue and underlined). The links are always above and below a chapter or sub-chapter and the text also includes references that work as direct links to the specified chapters.

**Back**: This link is used to scroll back a page.

**Next**: This link is used to scroll to the next page.

**Text reference**: This link takes you to the corresponding chapter.

In addition, the **navigation bar** (item 4 in the figure with the online help window further up) can be used to navigate in the help.

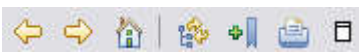


**Figure 12.29. Navigation bar of the online help**

You can use the navigation bar displayed above from the left to the right to navigate **backwards** and **forwards**, access the **start page** of the online help, display the **table of contents**, set a **bookmark**, **print** the help text and **maximise the help window**.

# 12.3.2. Support

**Support:**

There are several ways of sending a support request or feedback from **Offboard Diagnostic Information System Service**.

For standard functions that are always visible, use the **Support** button to send a support request at any time.

The question whether feedback is to be sent is part of the process of exiting a diagnostic or flash session.

**Reference:**

See "Ending diagnosis" chapter.

See "Flash mode" chapter.

On exiting the application, it is also possible to send feedback.



This button is used to open the **Send support request** window.

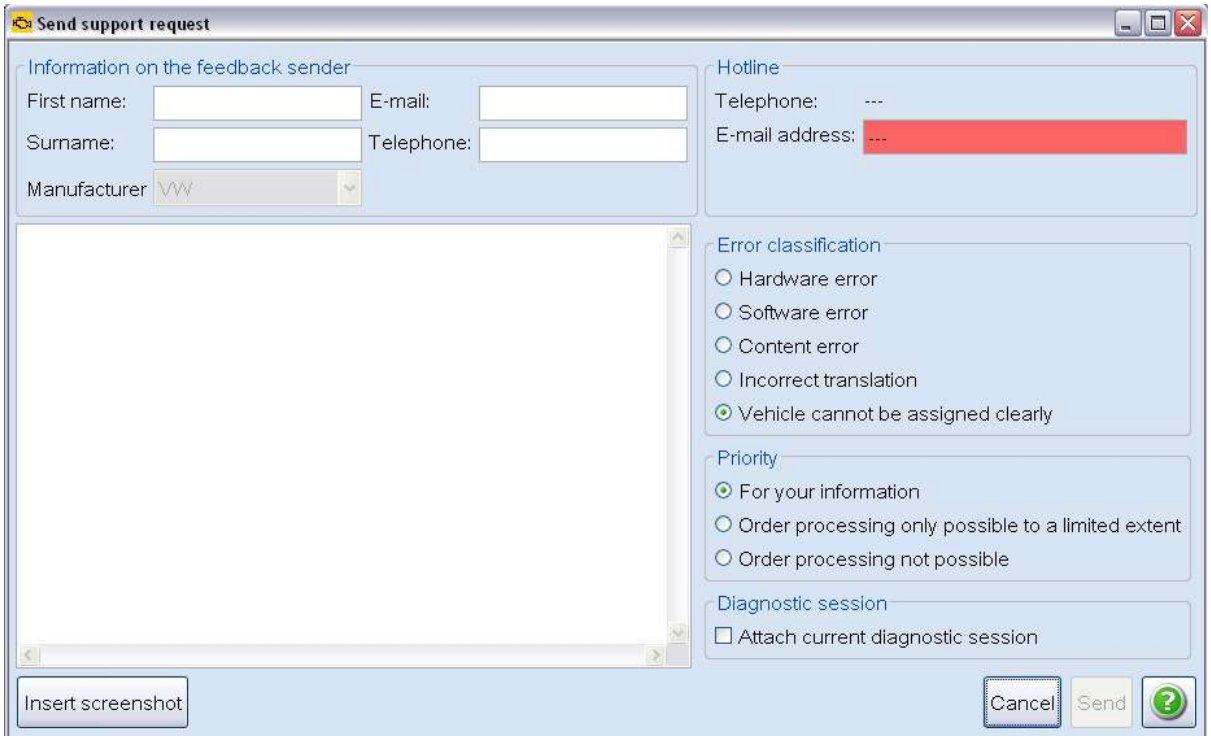


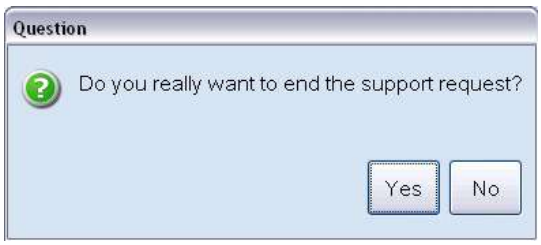

**Figure 12.30. The "Send support request" window**



This button can be used to send a screenshot of the error message or problem with the support request. Clicking on the **Insert screenshot** button inserts a screenshot of the current view of **Offboard Diagnostic Information System Service** in the text box.



To cancel the support request without sending it, click on the **Cancel** button. The window is closed. Cancellation of the support request needs to be confirmed in a query.




**Yes:** The support request is cancelled and exited.

**No:** The support request is not cancelled.



Click on this button to send the support request. This button is only enabled if the mail address in the hotline section is valid.

 The online help for feedback operation is available via this button.

The **Information on the feedback sender** section is at the top left of the support window.




**Figure 12.31. Information on the feedback sender**

The

**First name**,

**Surname**,

**E-mail address** and

**Telephone no**.

are entered here.

If information on the feedback sender is entered in the administration under **Support area** (see reference below), it is set by default. The data can be overwritten in the **Send support request** dialogue. If the overwritten data is to be reused for the next support request, change it in the administration under **Support area**.

In addition to the sender data, the brand of the diagnostic data used must be selected in the **Manufacturer** field if no diagnostic session is currently active. Otherwise, the field is specified by default according to the vehicle brand.

**⇨ Reference:**

See "Support area" in the Administration mode chapter.

The **Error classification** section is for assigning the error to an area of the application.

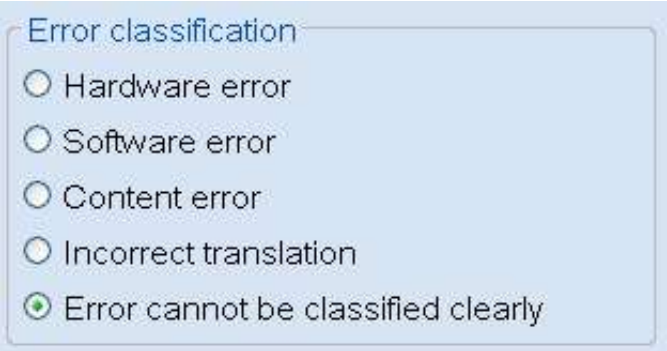



**Figure 12.32. Feedback error classification**

Whether it is a hardware error, software error, a content-related error, a faulty translation or whether the error cannot be assigned to any of these areas is specified here. Only one selection is possible.

The **Priority** section is for specifying how urgently the error needs to be rectified.

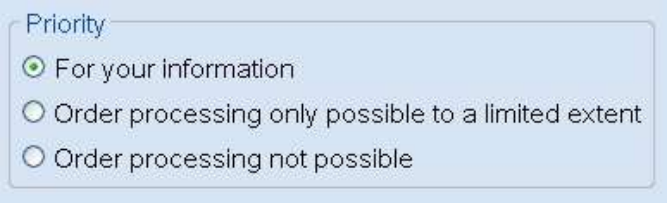



**Figure 12.33. Feedback error priority**

Activate **For your information** if you are providing feedback in the form of comments or suggestions. That is the default setting.

Activate **Order processing only possible to a limited extent** if discrepancies or error messages occur that impede the workflow.

Activate **Order processing not possible** if this error prevents you from working with **Offboard Diagnostic Information System Service**.

To add the current diagnostic session, select the **Add current diagnostic session** checkbox.

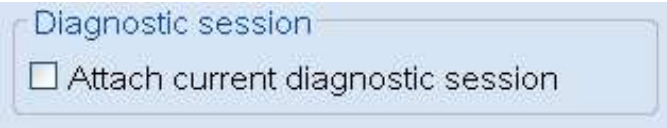



**Figure 12.34. Attaching a diagnostic session**

The current diagnostic session includes information that makes it easier for the **Offboard Diagnostic Information System Service** development team to understand the user's feedback. The current diagnostic protocol is attached automatically with every feedback.

**Note**:

The **Attach current diagnostic session** checkbox should always be selected if support is requested due to problems executing GFF.

In the event of errors, please do not fail to include a screenshot to accelerate identification and rectification of the error.

If **Mail server login** is activated in the support/outgoing mail server administration, the dialogue for logging on to the server appears when you click on the **Send** button.




**Figure 12.35. Mail server login for feedback**

**Apply:** The user and password data entered is used to log on to the mail server and send the feedback.

**Cancel:** Feedback transmission is cancelled.

If the login data, the login name or the password, is entered incorrectly, **error message ODS9106E** appears with a note on the incorrect login data.




**Figure 12.36. Incorrect mail server login**

**Apply:** The user and password data entered is used to log on to the mail server and send the feedback.

**Cancel:** Feedback transmission is cancelled.

**Reference:**

See "Outgoing mail server details" in the Administration chapter.

**Note**:

If there is currently no online connection, the support request is stored temporarily in the system and sent the next time an online connection is established.


Information
The message could not be sent and will be placed in the queue.
It will be sent together with the next message.
Ok

**Figure 12.37. Feedback message with offline connection**

**OK:** The message is confirmed and closed.

# 12.4. Info

After starting **Offboard Diagnostic Information System Service** a window is displayed with general **warnings and notes**. The following figures show the window with different positions of the scroll-bar:

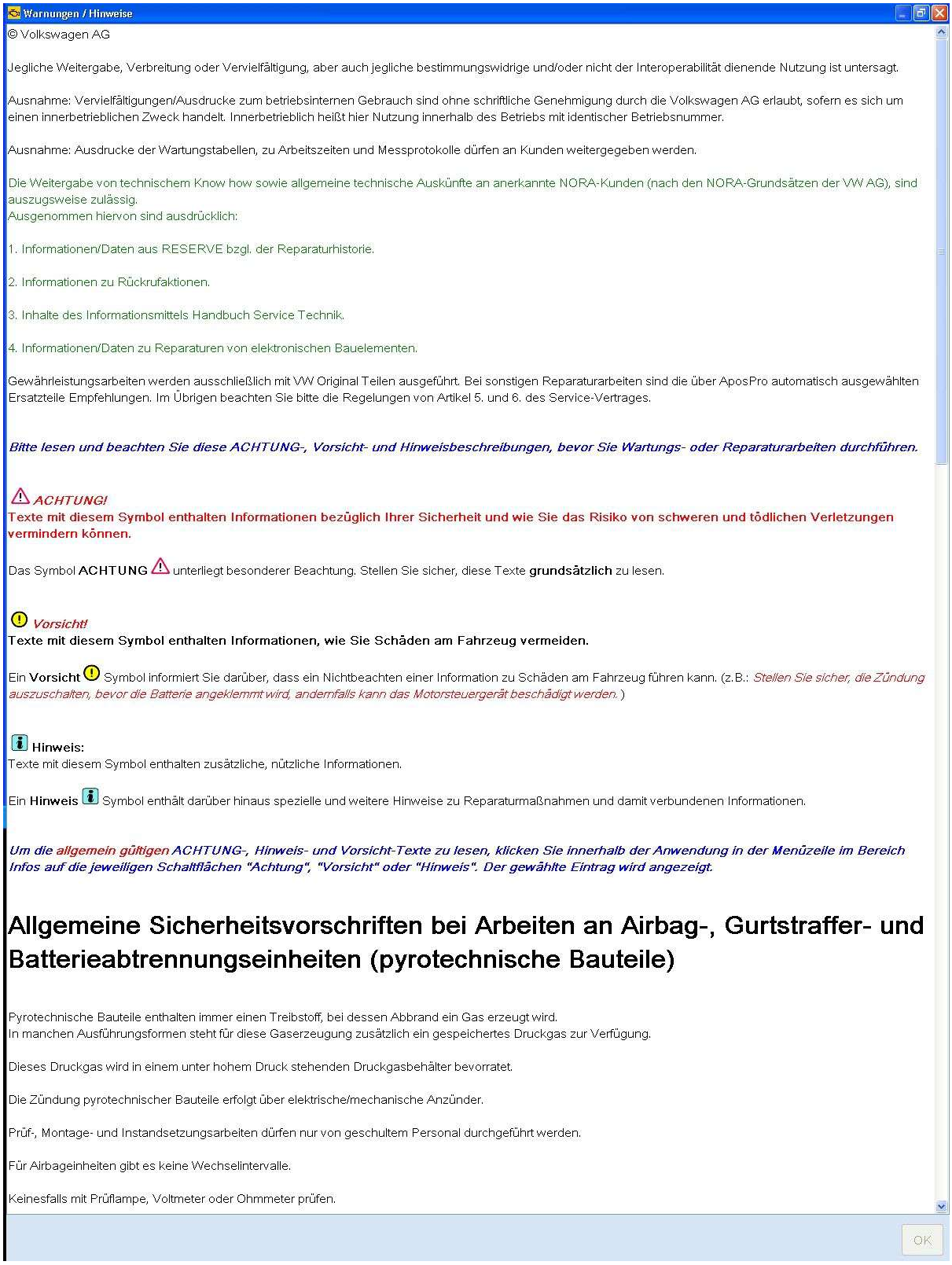

Warnungen / Hinweise
© Volkswagen AG
Jegliche Weitergabe, Verbreitung oder Vervielfältigung, aber auch jegliche bestimmungswidrige und/oder nicht der Interoperabilität dienende Nutzung ist untersagt.
Ausnahme: Vervielfältigungen/Ausdrucke zum betriebsinternen Gebrauch sind ohne schriftliche Genehmigung durch die Volkswagen AG erlaubt, sofern es sich um einen innerbetrieblichen Zweck handelt. Innerbetrieblich heißt hier Nutzung innerhalb des Betriebs mit identischer Betriebsnummer.
Ausnahme: Ausdrucke der Wartungstabellen, zu Arbeitszeiten und Messprotokolle dürfen an Kunden weitergegeben werden.
Die Weitergabe von technischem Know how sowie allgemeine technische Auskünfte an anerkannte NORA-Kunden (nach den NORA-Grundsätzen der VW AG), sind auszugsweise zulässig.
Ausgenommen hiervon sind ausdrücklich:
1. Informationen/Daten aus RESERVE bzgl. der Reparaturhistorie.
2. Informationen zu Rückrufaktionen.
3. Inhalte des Informationsmittels Handbuch Service Technik.
4. Informationen/Daten zu Reparaturen von elektronischen Bauelementen.
Gewährleistungsarbeiten werden ausschließlich mit VW Original Teilen ausgeführt. Bei sonstigen Reparaturarbeiten sind die über AposPro automatisch ausgewählten Ersatzteile Empfehlungen. Im Übrigen beachten Sie bitte die Regelungen von Artikel 5. und 6. des Service-Vertrages.
Bitte lesen und beachten Sie diese ACHTUNG-, Vorsicht- und Hinweisbeschreibungen, bevor Sie Wartungs- oder Reparaturarbeiten durchführen.
ACHTUNG!
Texte mit diesem Symbol enthalten Informationen bezüglich Ihrer Sicherheit und wie Sie das Risiko von schweren und tödlichen Verletzungen vermindern können.
Das Symbol ACHTUNG unterliegt besonderer Beachtung. Stellen Sie sicher, diese Texte grundsätzlich zu lesen.
Vorsicht!
Texte mit diesem Symbol enthalten Informationen, wie Sie Schäden am Fahrzeug vermeiden.
Ein Vorsicht Symbol informiert Sie darüber, dass ein Nichtbeachten einer Information zu Schäden am Fahrzeug führen kann. (z.B.: Stellen Sie sicher, die Zündung auszuschalten, bevor die Batterie angeklemmt wird, andernfalls kann das Motorsteuergerät beschädigt werden. )
Hinweis:
Texte mit diesem Symbol enthalten zusätzliche, nützliche Informationen.
Ein Hinweis Symbol enthält darüber hinaus spezielle und weitere Hinweise zu Reparaturmaßnahmen und damit verbundenen Informationen.
Um die allgemein gültigen ACHTUNG-, Hinweis- und Vorsicht-Texte zu lesen, klicken Sie innerhalb der Anwendung in der Menüzeile im Bereich Infos auf die jeweiligen Schaltflächen "Achtung", "Vorsicht" oder "Hinweis". Der gewählte Eintrag wird angezeigt.
Allgemeine Sicherheitsvorschriften bei Arbeiten an Airbag-, Gurtstraffer- und Batterieabtrennungseinheiten (pyrotechnische Bauteile)
Pyrotechnische Bauteile enthalten immer einen Treibstoff, bei dessen Abbrand ein Gas erzeugt wird.
In manchen Ausführungsformen steht für diese Gaserzeugung zusätzlich ein gespeichertes Druckgas zur Verfügung.
Dieses Druckgas wird in einem unter hohem Druck stehenden Druckgasbehälter bevorratet.
Die Zündung pyrotechnischer Bauteile erfolgt über elektrische/mechanische Anzünder.
Prüf-, Montage- und Instandsetzungsarbeiten dürfen nur von geschultem Personal durchgeführt werden.
Für Airbageinheiten gibt es keine Wechselintervalle.
Keinesfalls mit Prüflampe, Voltmeter oder Ohmmeter prüfen.
OK

**Figure 12.38. Window with warnings/notes (part 1)**

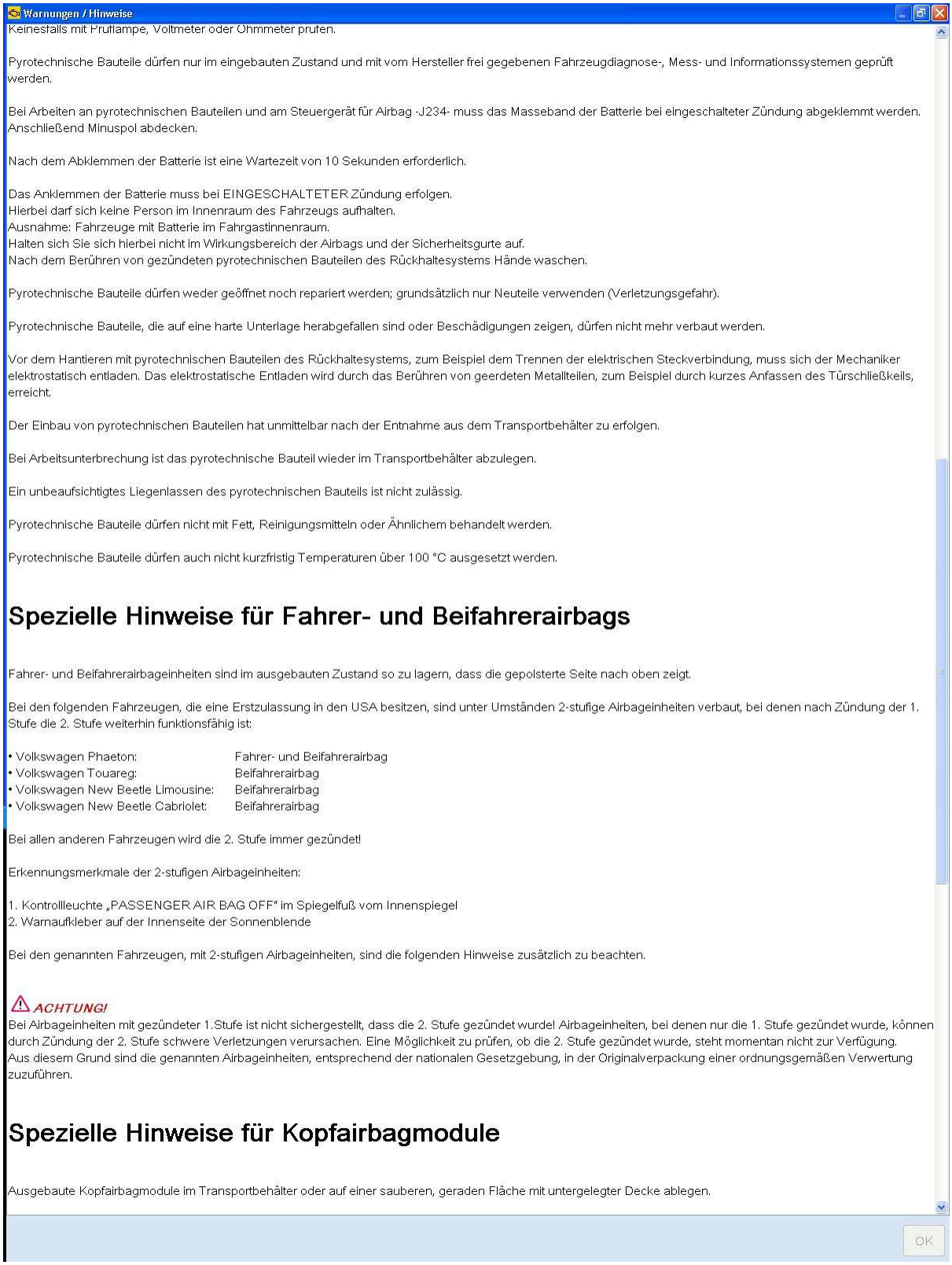

Warnungen / Hinweise
Keinesfalls mit Prüflampe, Voltmeter oder Ohmmeter prüfen.
Pyrotechnische Bauteile dürfen nur im eingebauten Zustand und mit vom Hersteller frei gegebenen Fahrzeugdiagnose-, Mess- und Informationssystemen geprüft werden.
Bei Arbeiten an pyrotechnischen Bauteilen und am Steuergerät für Airbag -J234- muss das Masseband der Batterie bei eingeschalteter Zündung abgeklemmt werden. Anschließend Minuspol abdecken.
Nach dem Abklemmen der Batterie ist eine Wartezeit von 10 Sekunden erforderlich.
Das Anklemmen der Batterie muss bei EINGESCHALTETER Zündung erfolgen.
Hierbei darf sich keine Person im Innenraum des Fahrzeugs aufhalten.
Ausnahme: Fahrzeuge mit Batterie im Fahrgastinnenraum.
Halten sich Sie sich hierbei nicht im Wirkungsbereich der Airbags und der Sicherheitsgurte auf.
Nach dem Berühren von gezündeten pyrotechnischen Bauteilen des Rückhaltesystems Hände waschen.
Pyrotechnische Bauteile dürfen weder geöffnet noch repariert werden; grundsätzlich nur Neuteile verwenden (Verletzungsgefahr).
Pyrotechnische Bauteile, die auf eine harte Unterlage herabgefallen sind oder Beschädigungen zeigen, dürfen nicht mehr verbaut werden.
Vor dem Hantieren mit pyrotechnischen Bauteilen des Rückhaltesystems, zum Beispiel dem Trennen der elektrischen Steckverbindung, muss sich der Mechaniker elektrostatisch entladen. Das elektrostatische Entladen wird durch das Berühren von geerdeten Metallteilen, zum Beispiel durch kurzes Anfassen des Türschließkeils, erreicht.
Der Einbau von pyrotechnischen Bauteilen hat unmittelbar nach der Entnahme aus dem Transportbehälter zu erfolgen.
Bei Arbeitsunterbrechung ist das pyrotechnische Bauteil wieder im Transportbehälter abzulegen.
Ein unbeaufsichtigtes Liegenlassen des pyrotechnischen Bauteils ist nicht zulässig.
Pyrotechnische Bauteile dürfen nicht mit Fett, Reinigungsmitteln oder Ähnlichem behandelt werden.
Pyrotechnische Bauteile dürfen auch nicht kurzfristig Temperaturen über 100 °C ausgesetzt werden.
Spezielle Hinweise für Fahrer- und Beifahrerairbags
Fahrer- und Beifahrerairbageinheiten sind im ausgebauten Zustand so zu lagern, dass die gepolsterte Seite nach oben zeigt.
Bei den folgenden Fahrzeugen, die eine Erstzulassung in den USA besitzen, sind unter Umständen 2-stufige Airbageinheiten verbaut, bei denen nach Zündung der 1. Stufe die 2. Stufe weiterhin funktionsfähig ist:
• Volkswagen Phaeton: Fahrer- und Beifahrerairbag
• Volkswagen Touareg: Beifahrerairbag
• Volkswagen New Beetle Limousine: Beifahrerairbag
• Volkswagen New Beetle Cabriolet: Beifahrerairbag
Bei allen anderen Fahrzeugen wird die 2. Stufe immer gezündet!
Erkennungsmerkmale der 2-stufigen Airbageinheiten:
1. Kontrollleuchte „PASSENGER AIR BAG OFF" im Spiegelfuß vom Innenspiegel
2. Warnaufkleber auf der Innenseite der Sonnenblende
Bei den genannten Fahrzeugen, mit 2-stufigen Airbageinheiten, sind die folgenden Hinweise zusätzlich zu beachten.
ACHTUNG!
Bei Airbageinheiten mit gezündeter 1.Stufe ist nicht sichergestellt, dass die 2. Stufe gezündet wurde! Airbageinheiten, bei denen nur die 1. Stufe gezündet wurde, können durch Zündung der 2. Stufe schwere Verletzungen verursachen. Eine Möglichkeit zu prüfen, ob die 2. Stufe gezündet wurde, steht momentan nicht zur Verfügung.
Aus diesem Grund sind die genannten Airbageinheiten, entsprechend der nationalen Gesetzgebung, in der Originalverpackung einer ordnungsgemäßen Verwertung zuzuführen.
Spezielle Hinweise für Kopfairbagmodule
Ausgebaute Kopfairbagmodule im Transportbehälter oder auf einer sauberen, geraden Fläche mit untergelegter Decke ablegen.
OK

**Figure 12.39. Window with warnings/notes (part 2)**

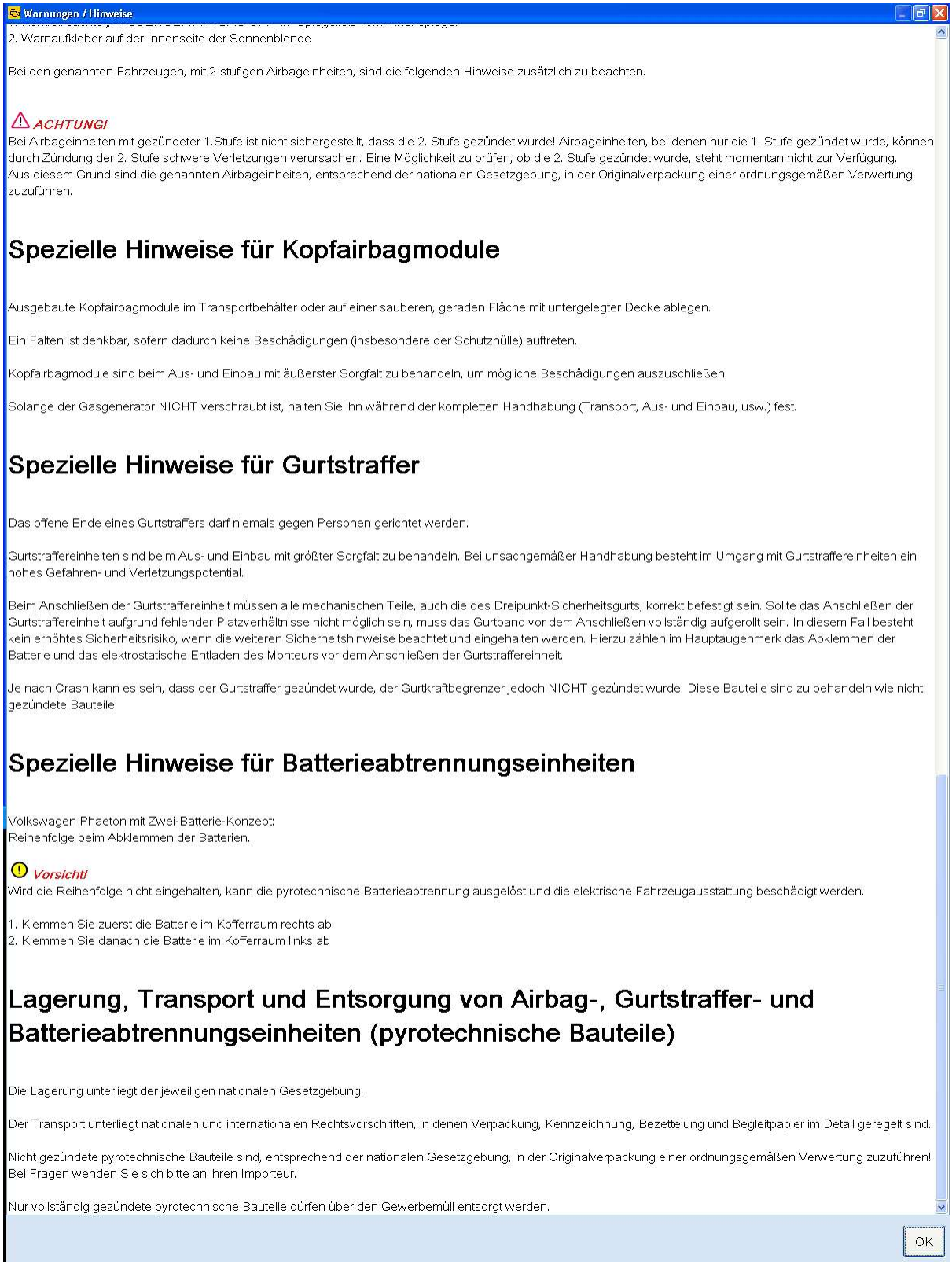

Warnungen / Hinweise
2. Warnaufkleber auf der Innenseite der Sonnenblende
Bei den genannten Fahrzeugen, mit 2-stufigen Airbageinheiten, sind die folgenden Hinweise zusätzlich zu beachten.
ACHTUNG!
Bei Airbageinheiten mit gezündeter 1.Stufe ist nicht sichergestellt, dass die 2. Stufe gezündet wurde! Airbageinheiten, bei denen nur die 1. Stufe gezündet wurde, können durch Zündung der 2. Stufe schwere Verletzungen verursachen. Eine Möglichkeit zu prüfen, ob die 2. Stufe gezündet wurde, steht momentan nicht zur Verfügung.
Aus diesem Grund sind die genannten Airbageinheiten, entsprechend der nationalen Gesetzgebung, in der Originalverpackung einer ordnungsgemäßen Verwertung zuzuführen.
Spezielle Hinweise für Kopfairbagmodule
Ausgebaute Kopfairbagmodule im Transportbehälter oder auf einer sauberen, geraden Fläche mit untergelegter Decke ablegen.
Ein Falten ist denkbar, sofern dadurch keine Beschädigungen (insbesondere der Schutzhülle) auftreten.
Kopfairbagmodule sind beim Aus- und Einbau mit äußerster Sorgfalt zu behandeln, um mögliche Beschädigungen auszuschließen.
Solange der Gasgenerator NICHT verschraubt ist, halten Sie ihn während der kompletten Handhabung (Transport, Aus- und Einbau, usw.) fest.
Spezielle Hinweise für Gurtstraffer
Das offene Ende eines Gurtstraffers darf niemals gegen Personen gerichtet werden.
Gurtstraffereinheiten sind beim Aus- und Einbau mit größter Sorgfalt zu behandeln. Bei unsachgemäßer Handhabung besteht im Umgang mit Gurtstraffereinheiten ein hohes Gefahren- und Verletzungspotential.
Beim Anschließen der Gurtstraffereinheit müssen alle mechanischen Teile, auch die des Dreipunkt-Sicherheitsgurts, korrekt befestigt sein. Sollte das Anschließen der Gurtstraffereinheit aufgrund fehlender Platzverhältnisse nicht möglich sein, muss das Gurtband vor dem Anschließen vollständig aufgerollt sein. In diesem Fall besteht kein erhöhtes Sicherheitsrisiko, wenn die weiteren Sicherheitshinweise beachtet und eingehalten werden. Hierzu zählen im Hauptaugenmerk das Abklemmen der Batterie und das elektrostatische Entladen des Monteurs vor dem Anschließen der Gurtstraffereinheit.
Je nach Crash kann es sein, dass der Gurtstraffer gezündet wurde, der Gurtkraftbegrenzer jedoch NICHT gezündet wurde. Diese Bauteile sind zu behandeln wie nicht gezündete Bauteile!
Spezielle Hinweise für Batterieabtrennungseinheiten
Volkswagen Phaeton mit Zwei-Batterie-Konzept:
Reihenfolge beim Abklemmen der Batterien.
Vorsicht!
Wird die Reihenfolge nicht eingehalten, kann die pyrotechnische Batterieabtrennung ausgelöst und die elektrische Fahrzeugausstattung beschädigt werden.
1. Klemmen Sie zuerst die Batterie im Kofferraum rechts ab
2. Klemmen Sie danach die Batterie im Kofferraum links ab
Lagerung, Transport und Entsorgung von Airbag-, Gurtstraffer- und Batterieabtrennungseinheiten (pyrotechnische Bauteile)
Die Lagerung unterliegt der jeweiligen nationalen Gesetzgebung.
Der Transport unterliegt nationalen und internationalen Rechtsvorschriften, in denen Verpackung, Kennzeichnung, Bezettelung und Begleitpapier im Detail geregelt sind.
Nicht gezündete pyrotechnische Bauteile sind, entsprechend der nationalen Gesetzgebung, in der Originalverpackung einer ordnungsgemäßen Verwertung zuzuführen!
Bei Fragen wenden Sie sich bitte an ihren Importeur.
Nur vollständig gezündete pyrotechnische Bauteile dürfen über den Gewerbemüll entsorgt werden.
OK

**Figure 12.40. Window with warnings/notes (part 3)**

**OK:** The window is closed.

These warnings and notes can be opened at all times via the **Info** area.

The following information functions are available in the Info area.




**Figure 12.41. Info area**

- **New features:**

  This button is used to open the **Release Notes** with information on new functions compared to the previous version of Offboard Diagnostic Information System Service and on errors rectified.

  The window is automatically displayed during the first start after each new installation of Offboard Diagnostic Information System Service.

- **Versions:**

  This button is used to open the **Version information** window. It contains information on the installed versions of Offboard Diagnostic Information System Service, the diagnostic data, the MCD server, the PDU API, the ECF and the ODX projects.

- **Attention:**

  This button is used to open the **Warnings/notes** window with warnings and notes of the **Attention** category.

- **Caution:**

  This button is used to open the **Warnings/notes** window with warnings and notes of the **Caution** category.

- **Note:**

  This button is used to open the **Warnings/notes** window with warnings and notes of the **Note** category.

The **Info** menu can be used to select the **Attention**, **Caution** and **Note descriptions** individually.

# Chapter 13. External verification

**Note:**

External verification is only available if Offboard Diagnostic Information System Service was purchased in a product version with external verification.

The **External verification** application is available on the **Verification** tab in the Diagnosis view.

The **external verification** is for checking editorial objects. These editorial objects need to be verified before productive operation on the testers. Editorial objects may be elements of the equipment network, diagnostic objects, additional documents, function tests and texts.

**Reference:**

See "Verification" in the extended configuration

# Chapter 14. Error messages

Error messages may occur for a variety of reasons while you are using **Offboard Diagnostic Information System Service** . Error messages contain information that is important for classification and for the subsequent procedure.

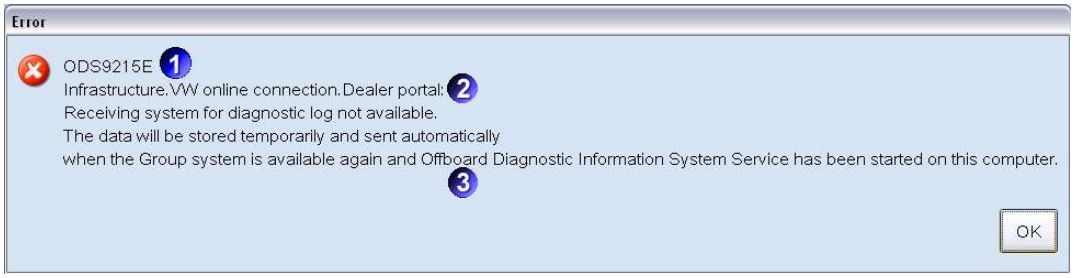

Error
ODS9215E
1
Infrastructure.VW online connection.Dealer portal:
2
Receiving system for diagnostic log not available.
The data will be stored temporarily and sent automatically
when the Group system is available again and Offboard Diagnostic Information System Service has been started on this computer.
3
OK

**Figure 14.1. Description of the error messages**

1 **Error ID:** The ID assigned to the error.

2 **Topology name:** The name of the application range where the area occurs.

3 **Error description:** The description of the malfunction.

**OK:** Closes the error message.

Use the **error ID** to look for the specific error message in the "Error ID" table. The column on the right, **Notes**, describes how to further proceed.

**Note**:

The most frequently encountered error messages occur as a result of connection failures to the vehicle and the network. In this case, it is recommended to check the connections and restart the system.

# 14.1. Error IDs

| ID | Error displayed | Note |
|---|---|---|
| No ID | No vehicle data found. | This message may be displayed on the following tabs: Orders, Vehicles and PR numbers.<br><br>Please check the network connection and inform Support. |
| No ID | This page cannot be displayed. | The information area of the user interface shows the current network status. If the network status is "offline", the following tabs cannot be displayed: TPI, Action, History, Circuit diagrams and Manuals.<br><br>Please check the network connection and inform Support. |
| No ID | No network connection available. | This error message is displayed in the following situation: a tab is activated while the network connection is active; in the meantime, the network connection is interrupted.<br><br>Connect to the network again or contact Support. |
| ODS0001E | Sensor ... is not connected to logical port .... | Please contact Support. |
| ODS0002E | It is not permitted to execute ... in the current state. | Please contact Support. |
| ODS0003E | Object ... is in poor condition. | Please contact Support. |
| ODS0004E | The configuration does not correspond to the connected device. | Please contact Support. |
| ODS0005E | A fault has occurred in the display module of the oscilloscope. | Please contact Support. |
| ODS0006E | No trigger channel has been set up for the triggered measurement. | Please contact Support. |
| ODS0007E | The GDI versions of the GDI components do not match. | Please contact Support. |
| ODS0008E | A GDI error has occurred. | Please contact Support. |
| ODS0009E | An error has occurred in the GDI coordinator: ... (error code: ... | Please contact Support. |
| ODS0010E | An error has occurred in the GDI driver: ... (error code: ... | Please contact Support. |
| ODS0011E | There is a conflict with the DCD. | Please contact Support. |
| ODS0012E | An error occurred during installation of the device driver. | Please contact Support. |
| ODS0013E | The measuring device is not configured in the GDI driver. | Please contact Support. |
| ODS0014E | An error has occurred while parsing target curve .... | Please contact Support. |
| ODS5001E | No knowledge base is available for the selected model ... .<br><br>"Flash" mode cannot be executed for this model. | Please check if there is an update for the software or data.<br><br>If the error still applies, please contact Support. |

| ID | Error displayed | Note |
|---|---|---|
| ODS0502E | This software installation is incomplete.<br><br>"Flash" mode cannot be executed with the existing software. | Please check if there is an update for the software or data.<br><br>If the error still applies, please contact Support. |
| ODS0503E | "Flash" mode does not support the current brand ... at the moment.<br><br>"Flash" mode cannot be executed for this brand. | Please check if there are updates for the software or data.<br><br>If the error still applies, please contact Support. |
| ODS0504E | There are inconsistencies within the diagnostic data for the current brand ... .<br><br>"Flash" mode cannot be executed for this brand. | Please check if there is an update for the software or data.<br><br>If the error still applies, please contact Support. |
| ODS0505E | There are ambiguities within the diagnostic data for the current brand ... .<br><br>"Flash" mode cannot be executed for this brand. | Please check if there is an update for the software or data.<br><br>If the error still applies, please contact Support. |
| ODS1001E | Not available - Timeout after ... seconds. | Please contact Support. |
| ODS1002E | The session has expired for account .... | Please restart the program.<br><br>If the error still applies, please immediately contact Support. |
| ODS1003E | Unable to connect to VehicleBaseServiceV15. | Incorrect connection data and server data has been entered in the Administration area.<br><br>Please contact Support. |
| ODS1004E | Connection to ... was interrupted. | Please try again. If you are still unable to log in, please contact Support. |
| ODS1005E | Transmission problem ... occurred with connection to ....<br><br>Connection interrupted. | Please try again or contact Support. |
| ODS1006E | Unable to connect with the URI/URL. | The address entered is not responding or reacting at the moment.<br><br>Please try again later or contact Support. |
| ODS1007E | Negative response from server. The error ID is ... | Please contact Support. |
| ODS1008E | Negative response from server: | Please contact Support. |
| ODS1501E | The version of the selected session ... is not compatible with the current program version ... . . The session cannot be loaded. | Please contact Support. |
| ODS1502E | The type of the selected session ... is not compatible with the current product ... The session cannot be loaded. | Please contact Support. |
| ODS1503E | The type of the selected session cannot be determined. The session cannot be loaded. | Please contact Support. |
| ODS2001E | The password for account ... is invalid. | Please contact Support. |
| ODS2002E | Password for account ... has expired. | Please contact Support. |
| ODS2003E | No authentication available. | Please contact Support. |
| ODS2004E | Account ... is not known. | Please contact Support. |
| ODS2005E | Authentication is required for access to .... | Please contact Support. |

| ID | Error displayed | Note |
|---|---|---|
| ODS2006E | Hardware with ID ... is marked as blocked. Please contact your support specialist. | Login was attempted with a diagnostic tester, the hardwareID of which is disabled by the server.<br><br>Please contact Support. |
| ODS2007E | Your flat rate has expired. Please contact your support specialist. | Please acquire a new flat rate if you are an unaffiliated market participant.<br><br>Please contact Support if you are an authorised dealer. |
| ODS2008E | The maximum number of concurrent user sessions for your flat rate has been reached. It is not possible to log in until an existing user session is available. | Please login again at a later time. |
| ODS2500E | The Group system has indicated a fault: ... | Please contact Support. |
| ODS2501F | No MCD system found. Please check the installation of the MCD system. | Please contact Support. |
| ODS2502E | Data does not exist. | Possible causes could be the following:<br><br>Missing or faulty vehicle project<br><br>The function is not intended for the control unit.<br><br>Please contact Support. |
| ODS2503E | Unable to read/determine VIN. | Check that the vehicle is connected and the ignition is switched on. |
| ODS2504F | No MCD/DTS system found. | Please contact Support. |
| ODS2506E | Unable to print correctly. | No access to the printer.<br><br>The print job has been cancelled by the user.<br><br>Please check the printer settings or contact your system administrator. |
| ODS2507E | Unable to create the print layout for the graphic. | Please contact Support. |
| ODS2508F | Important Softing libraries could not be found. | Possible causes:<br><br>1. MCD server is not installed. Please correct this by installing the current MCD server.<br><br>2. The working directory of the MCD server is not within the system path.<br><br>3. The working directory of the MCD server cannot be accessed.<br><br>Please contact Support. |
| ODS2509F | Important Softing libraries show discrepancies between installed and expected versions. | Please correct this by installing the current MCD server.<br><br>Please contact Support. |
| ODS2510F | The ECF framework for access to the MCD system could not be instantiated. | Please correct this by installing the latest EDF version.<br><br>Please contact Support. |

| ID | Error displayed | Note |
|---|---|---|
| ODS2511F | The MCD system could not be instantiated. | This may be for several reasons.<br><br>1. Another application using the MCD server is active. End these applications and restart the application.<br><br>2. Another application using the MCD server cannot be closed. Restart the computer and try again.<br><br>Please contact Support. |
| ODS2512F | The system is being shut down now. All pending activities will be cancelled. | Please check if **Offboard Diagnostic Information System Service** is working again correctly after the start. If that is not the case, contact Support. |
| ODS2513E | The diagnostic interface of the MCD system could not be configured correctly. | Check the configuration of your diagnostic hardware in the PDU-Api and adjust it, if necessary. |
| ODS2514E | Error while accessing the logical link monitor of the MCD system. | Please contact Support. |
| ODS3001E | File ... could not be found. | Check that the path is correct or contact Support. |
| ODS3002E | No read permission for account ... for file .... | You do not have the necessary access rights. Please contact Support. |
| ODS3003E | No write permission for account ... for file .... | You do not have the necessary access rights. Please contact Support. |
| ODS3004E | No space to write file .... | The data carrier is full. Please contact your system administrator or Support. |
| ODS3005E | File folder ... could not be found. | Check that the path is correct or contact Support. |
| ODS3006E | Incorrect file format for file .... Format ... was expected. | Please contact Support. |
| ODS3007E | File ... in file folder ... cannot be processed or written. | Please contact Support. |
| ODS3008E | File ... in file folder ... cannot be opened or read. | Please contact Support. |
| ODS3009E | File ... cannot be copied to .... | Please contact Support. |
| ODS3010E | Filter file for HexService not available or not legible.<br><br>The hex service function cannot be executed. | Please contact Support. |
| ODS3011E | An error occurred while displaying the result of the build status test. | Please contact Support. |
| ODS3012E | An error occurred while generating the html result log. | Please contact Support. |
| ODS3501E | Connection data to Group systems is incorrect or does not exist. Please contact Support. | Please contact Support. |
| ODS4001E | The data structure ... could not be created or converted. Please contact Support. | Please contact Support. |
| ODS4002E | The software library ... could not be found. | Please contact Support. |
| ODS4003E | The software library ... could not be opened. | Please contact Support. |
| ODS4004E | The parameters received for calling ... are incorrect. | Please contact Support. |

| ID | Error displayed | Note |
|---|---|---|
| ODS4005F | Incorrect Java installation. | Please contact Support. |
| ODS4006E | Module (service) ... is not available. | Please contact Support. |
| ODS4007E | The service ... could not be configured. | Please contact Support. |
| ODS4008E | Session with vehicle ... could not be recovered. | Please check the connection to the vehicle or contact Support. |
| ODS4009E | An internal system error occurred. The system might therefore be instable. Please send feedback and contact Support. It is recommended to shut down and restart the system | Please restart the system. If this does not rectify the error, please contact Support. |
| ODS4010E | The data structure ... contains errors in content. | Please contact Support. |
| ODS4011E | The code ... is not supported by the system. | Please contact Support. |
| ODS4012E | There is no session data to be saved. | Please contact Support.. |
| ODS4013E | The session data could not be reconstructed. | Please contact Support. |
| ODS4014E | The session data could not be saved. | Please contact Support. |
| ODS4015E | An error occurred while entering a parameter.<br><br>The entered value cannot be converted to the type of the parameter. | Please contact Support. |
| ODS4016E | An error occurred while entering a parameter.<br><br>The type of parameter is not supported. | Please contact Support. |
| ODS4501E | Test drive mode could not be activated. | Please contact Support. |
| ODS4502E | The licence file cannot be opened or read. Test drive mode is not activated. | Please contact Support. |
| ODS4503E | The licence file could not be copied. Test drive mode is not activated. | Please contact Support. |
| ODS4504E | Test drive mode could not be deactivated. | Please contact Support. |
| ODS5001E | Test program or step ... could not be loaded. | Please contact Support. |
| ODS5002E | Connection to test instruments not available. | Please contact Support. |
| ODS5003E | An internal fatal test program error has occurred. This test will be cancelled. Error type: ...<br><br>Details: ... | Please contact Support. |
| ODS5004E | Internal test program error. A user interaction attempt was made, which is only permitted within a test step. This test will be cancelled. | Please perform the test again or contact Support. |
| ODS5005E | Document ... could not be loaded. | Please contact Support. |
| ODS5006E | Unable to determine the knowledge base for the vehicle. Guided fault finding is not possible for this vehicle. Details: ... | Please contact Support. |
| ODS5007E | A version problem in test ... has been detected. | Please contact Support. |
| ODS5008E | Decompression of test program ... failed due to a missing or invalid compression. The test program could not be loaded. | Please contact Support. |
| ODS5009E | Decoding of test program ... failed due to a missing or invalid code. The test program could not be loaded. | Please contact Support. |

| ID | Error displayed | Note |
|---|---|---|
| ODS5010E | The signature check of test program ... failed due to a missing or manipulated signature. The test program could not be loaded. | Please contact Support. |
| ODS5501E | Control unit ... could not be found. | Please contact Support. |
| ODS5502E | Connection ... could not be opened. | Please contact Support. |
| ODS5503E | Connection ... could not be generated. | Please contact Support. |
| ODS5504E | Unexpected result during control unit communication, method ... | Please contact Support. |
| ODS5505E | Control unit communication not possible, method ... | Please contact Support. |
| ODS5506E | Error ... during control unit communication, job ..., control unit ... ECF error text: ... | Please contact Support. |
| ODS5507F | Communication description file ... could not be found. | Please contact Support. |
| ODS5508F | Error while reading communication description file. | Please contact Support. |
| ODS5509F | Contents of communication description file invalid. | Please contact Support. |
| ODS5510E | Communication job ... for control unit ... could not be found in description file. | Please contact Support. |
| ODS5511E | Method ... described incorrectly ... in description file. | Please contact Support. |
| ODS5512E | Error while converting parameters for class ... | Please contact Support. |
| ODS5513E | Communication job ... for connection ... could not be generated. | Please contact Support. |
| ODS5514E | Incorrect job description for ... in description file. | Please contact Support. |
| ODS5515E | Error while acquiring results of control unit communication. | Please contact Support. |
| ODS5519E | Internal error in test program: method ... for job ... not found. | Please contact Support. |
| ODS5551E | Connection name for control unit ... could not be found. | Please contact Support. |
| ODS5552E | Communication job ... could not be created. | Please contact Support. |
| ODS5553E | Requirement parameters for communication job ... could not be determined. | Please contact Support. |
| ODS5554E | Unable to determine a valid value for requirement parameter ... of communication job ... . | Please contact Support. |
| ODS5555E | Unknown requirement parameter ... for communication job ... . . | Please contact Support. |
| ODS5556E | The value ... for requirement parameter ... could not be converted into type ... . | Please contact Support. |
| ODS5557E | The value ... for requirement parameter ... cannot be converted into type ... . | Please contact Support. |
| ODS5558E | The value ... for requirement parameter ... could not be entered. | Please contact Support. |

| ID | Error displayed | Note |
|---|---|---|
| ODS5559E | Control unit communication not possible, communication job ... . | Please contact Support. |
| ODS5560E | Error ... during control unit communication, job ..., control unit connection ... . | Please contact Support. |
| ODS5570E | Measured value table ... could not be found. | Please contact Support. |
| ODS5571E | Entry ... in measured value table ... not found. | Please contact Support. |
| ODS5572E | Control unit ... from measured value table ... not found. | Please contact Support. |
| ODS5573E | No valid entries found in measured value table ... . | Please contact Support. |
| ODS6003F | The brand ... of the installed diagnostic data differs from the brands in the certificate: ... | Please contact Support. |
| ODS6004F | The software version installed ... differs from the version in the certificate: ... | Please contact Support. |
| ODS6005F | The hardware key in certificate ... does not correspond to the hardware key of hardware .... | Please contact Support. |
| ODS6007F | Certificate expired on .... | Please contact Support. |
| ODS6008F | Certificate is not valid until .... | Please contact Support. |
| ODS6009F | No valid contractual status could be determined. Cancelling diagnostic session. | An error occurred while determining the dealer's contract status.<br><br>Please contact Support. |
| ODS6010E | You are not authorised for the selected brand. Loading the diagnostic session will be cancelled. | An attempt is being made to load a diagnostic session with a non-licensed brand.<br><br>Please contact Support. |
| ODS6011E | The contractual status of the diagnostic session does not correspond to your contractual status. Loading the diagnostic session will be cancelled. | An attempt is being made to load a diagnostic session, of which the saved contract status does not correspond to the current contract status of the brand used.<br><br>Please contact Support. |
| ODS6012F | No brand-related information could be determined because no current brand is available. | Please contact Support. |
| ODS6013F | There is no information in the licence for the ... brand. | Please contact Support. |
| ODS6101E | Creation of or access to the certificate memory failed. | Please contact Support. |
| ODS6102E | Importing the certificate file failed.<br><br>The file format is not supported. | Please contact Support. |
| ODS6103E | Importing the certificate file failed.<br><br>The certificate file does not only contain X.509 certificates. | Please contact Support. |
| ODS6104E | Importing the certificate file failed.<br><br>The private key could not be determined. Please check the password. | Please contact Support. |

| ID | Error displayed | Note |
|---|---|---|
| ODS6105E | Importing the certificate file failed.<br><br>The validity period of a certificate does not include the current date. | Please contact Support. |
| ODS6106E | Importing the certificate file failed.<br><br>The certificate chain to be imported is not valid. | Please contact Support. |
| ODS6107E | Importing the certificate file failed.<br><br>The certificate's hardware ID does not match the hardware ID of the current ODIS licence. | Please contact Support. |
| ODS6108E | Importing the certificate file failed.<br>The certificate could not be inserted in the certificate memory. | Please contact Support. |
| ODS6109E | Deleting the certificate failed.<br>The certificate could not be deleted from the certificate memory. | Please contact Support. |
| ODS6110E | Access to the certificate memory for client certificates failed due to a changed hardware ID.<br>The certificate memory will now be re-created. | Please contact Support. |
| ODS6501E | The database ... required for the application was not found. | Please exit the application and check the installation.<br><br>Please contact Support. |
| ODS6502E | Error while determining the metadata for the data adapter ... | Please contact Support. |
| ODS6503E | Database ... could not be opened. Please close the application and restart it. | If that does not fix the error, please contact Support. |
| ODS6504E | A data adapter was not found; therefore, there is no database available. Diagnosis will not be possible. | Correct or update the installation.<br><br>Please contact Support. |
| ODS7001E | Database ... cannot be opened. | Please contact Support. |
| ODS7002E | Database ... cannot be closed. | Please contact Support. |
| ODS7003E | Database ... cannot be read. | Please contact Support. |
| ODS7004E | Entries in database ... not possible. | Please contact Support. |
| ODS7005E | The database structure is faulty. | Please contact Support. |
| ODS7006E | Internal DB access error - no primary key defined for table ... . | Please contact Support. |
| ODS7501F | The Diagnostic Information Database (DIDB) is not available. | Please contact Support. |
| ODS7502E | Query to Diagnostic Information Database (DIDB) failed. | Please contact Support. |
| ODS7503E | Update of the diagnostic database failed. Diagnosis will be performed using the old diagnostic data. Please contact Support. | Please contact Support. |
| ODS8001E | Communication with vehicle interrupted. | Please check the connection to the vehicle or contact Support. |
| ODS8002E | Error during communication with the control unit with control address .... | Please contact Support. |

| ID | Error displayed | Note |
|---|---|---|
| ODS8003E | Operation on the control unit with the control address ... was faulty.<br><br>Error message: ... | Please contact Support. |
| ODS8004E | Unable to establish communication with the vehicle. | Please check the connection to the vehicle or contact Support. |
| ODS8005E | The following error occurred during communication with the MCD system: ... | Please contact Support. |
| ODS8006F | Diagnostic hardware could not be found. Please check whether the corresponding hardware is connected correctly. | Please check the connection to the vehicle and the diagnostic hardware or contact Support. |
| ODS8007E | The following error occurred during communication with the MCD system:<br><br>Error code: ...<br><br>Error code description: ... | Please contact Support. |
| ODS8008E | The following error occurred during communication with the vehicle:<br><br>Error code: ...<br><br>Error code description: ... | Please contact Support. |
| ODS8009E | No event memories could be read while communicating with the control unit: ...<br><br>Error description: ... | Please contact Support. |
| ODS8010E | The operation was cancelled by the control unit. Possible causes:<br><br>Login incorrect or missing<br><br>Others | Please contact Support. |
| ODS8011E | Control unit with control address ... is not installed or does not respond. | Please contact Support. |
| ODS8012E | An error occurred during communication with the vehicle:<br><br>The control unit's response contains implausible data. | Please contact Support. |
| ODS8013E | An error occurred while filtering/checking the flash sessions. A possible cause could be incompatibility between ODX data input and flash data. | Please contact Support. |
| ODS8014E | Diagnostic project ... is not available. Please check the installation of your software. | Please contact Support. |
| ODS8015E | Communication with the vehicle could not be reset.<br><br>Possible cause: there are still active diagnostic jobs. | Please contact Support. |

| ID | Error displayed | Note |
|---|---|---|
| ODS8016E | An error occurred during communication with the vehicle:<br><br>Check if the ignition is switched on. | Please contact Support. |
| ODS8017F | An error occurred during hardware initialisation/deinitialisation of:<br><br>with the following manufacturer error description: ... | Please contact Support. |
| ODS8018E | An error occurred during communication with the vehicle:<br><br>The control unit's response contains implausible data. | Please contact Support. |
| ODS8019E | An error occurred during communication with the vehicle:<br><br>The code has not been applied by the control unit. | Please contact Support. |
| ODS8020E | An error occurred during communication with the vehicle:<br><br>The operation on the control unit was faulty. | Please contact Support. |
| ODS8021E | An error occurred during communication with the vehicle:<br><br>The operation was stopped by the control unit. | Please contact Support. |
| ODS8022E | An error occurred during communication with the vehicle:<br><br>The entered value is outside the valid value range. | Please contact Support. |
| ODS8023E | An error occurred during data input or interpretation of data. Possible causes:<br><br>One of the entered values is outside the valid value range.<br><br>The control unit returns implausible data.<br><br>The MCD system reports the following error:<br><br>Error code: ...<br><br>Error code description: ... | Please contact Support. |
| ODS8024E | An error occurred during communication with the MCD system:<br><br>The MCD job ... did not return any results after its execution. | Please contact Support. |
| ODS8025E | It is not possible to access communication parameters of the control unit ... before connecting. | Please contact Support. |

| ID | Error displayed | Note |
|---|---|---|
| ODS8026E | Communication with the vehicle has been interrupted.<br><br>Possible causes: Vehicle or battery not connected.<br><br>Error code: ...<br><br>Error code description: ...<br><br>Note: ... | Please contact Support. |
| ODS8027E | For control unit ... - ... the connection cannot be terminated due to existing communication jobs.<br><br>When communication with this control unit is finished you can try again to disconnect. | Please contact Support. |
| ODS8028E | Communication protocol ... is not supported. | Please contact Support. |
| ODS8029E | No gateway available. | Please contact Support. |
| ODS8030E | No bus master available. | Please contact Support. |
| ODS8031E | There is an error in the existing diagnostic data.<br><br>Diagnostic start-up cannot be performed. | Please contact Support. |
| ODS8032E | Work is not possible with the selected method.<br><br>No other methods are available to continue diagnostic start-up. | Please contact Support. |
| ODS8033E | Work is not possible with the selected method.<br><br>Diagnostic start-up must be continued with a different method. | Please contact Support. |
| ODS8034E | There is no information available for internally marked vehicles.<br><br>Diagnostic start-up will be cancelled. | Please contact Support. |
| ODS9001E | Contents of software pool and data pool are faulty. | Please contact Support. |
| ODS9002E | An error occurred during download from software pool and data pool. | Please contact Support. |
| ODS9003E | An error occurred during upload to software pool and data pool. | Please contact Support. |
| ODS9004E | Cannot connect to MirrorServer2. | Please contact Support. |
| ODS9005E | There is not enough free memory for the update. ... kB required, but only ... kB available. | Please contact Support. |
| ODS9006E | Administration rights are required for the update. Please log in as an administrator and then perform the update. | Please contact Support. |
| ODS9007E | The update failed or was cancelled. | Please contact Support. |
| ODS9101E | Local computer name could not be determined. | Please contact Support. |
| ODS9102E | The configured mail server ... is not known. | Please contact the mail server administrator or your provider. |
| ODS9103E | No information configured for mail server. | Please check the information or contact Support. |

| ID | Error displayed | Note |
|---|---|---|
| ODS9104E | Transmission of the existing e-mail(s) failed.<br><br>The original text of the error message is: ... | Check that there is a network connection or contact Support. |
| ODS9105E | Error while creating e-mail.<br><br>Invalid sender e-mail address ... identified. | Please contact the mail server administrator or your provider. |
| ODS9106E | Login to mail server ... failed.<br><br>Please check the login name and/or the password. | Please correct your login name or password or contact the mail server administrator or your provider. |
| ODS9201E | Dealer portal not available. | Please try again later or contact Support. |
| ODS9202E | Transactions cannot be loaded. | Please try again later or contact Support. |
| ODS9203E | Test plan will be created without customer code. | Please try again later or contact Support. |
| ODS9204E | DISS codes cannot be loaded. | Please try again later or contact Support. |
| ODS9205E | List of circuit diagrams cannot be displayed. | Please try again later or contact Support. |
| ODS9206E | Circuit diagram cannot be loaded. | Please try again later or contact Support. |
| ODS9207E | Vehicle data cannot be loaded. | Please try again later or contact Support. |
| ODS9208E | System for immobiliser adaptation (FAZIT) not available. | Please try again later or contact Support. |
| ODS9209E | Fault candidates cannot be loaded. | Please try again later or contact Support. |
| ODS9210E | System for coding (System42) not available. | Please try again later or contact Support. |
| ODS9211E | System for flashing (System42) not available. | Please try again later or contact Support. |
| ODS9212E | Login not possible. No access to the dealer portal. | Please try again later or contact Support. |
| ODS9213E | The transaction cannot be completed. The Group system is not available.<br><br>The data will be stored temporarily and sent automatically when the Group system is available again and Offboard Diagnostic Information System Service has been started on this computer. | Please try again later or contact Support. |
| ODS9214E | Receiving system for key transponder not available.<br><br>The data will be stored temporarily and sent automatically when the Group system is available again and Offboard Diagnostic Information System Service has been started on this computer. | Please try again later or contact Support. |
| ODS9215E | Receiving system for diagnostic protocol not available.<br><br>The data will be stored temporarily and sent automatically when the Group system is available again and Offboard Diagnostic Information System Service has been started on this computer. | Please try again later or contact Support. |

| ID | Error displayed | Note |
|---|---|---|
| ODS9216E | The diagnostic protocol cannot be saved. The storage location is not available.<br><br>The protocol will be stored temporarily in encrypted form and saved automatically when the storage location is available again and Offboard Diagnostic Information System Service has been started on this computer. | Please try again later or contact Support. |
| ODS9217E | Receiving system for the current build status not available.<br><br>The data will be stored temporarily and sent automatically when the Group system is available again and Offboard Diagnostic Information System Service has been started on this computer. | Please try again later or contact Support. |
| ODS9218E | Template ... is missing in the GFF data. The test will be cancelled. | Please contact Support. |
| ODS9219E | No URL found in the configuration data for the alias ... .<br><br>The test will be cancelled. | Please contact Support. |

**Table 14.1. Table of error IDs**

# 14.2. Other error messages

## 14.2.1. Firewall messages

When carrying out updates for **Offboard Diagnostic Information System Service**, a firewall message may be displayed.


Windows Security Alert
To help protect your computer, Windows Firewall has blocked some features of this program.
Do you want to keep blocking this program?
Name: OdisLauncher
Publisher: Unknown
Keep Blocking
Unblock
Ask Me Later
Windows Firewall has blocked this program from accepting connections from the Internet or a network. If you recognize the program or trust the publisher, you can unblock it. When should I unblock a program?

**Figure 14.2. Windows firewall message**

To confirm this message, click on the **Unblock** button.

**Note:**

If you click on the **Keep Blocking** button, the firewall blocks the execution of the update and the program cancels the attempt.

## 14.2.2. Browser messages

In some cases browser security warnings may be displayed. These messages come after starting **Offboard Diagnostic Information System Service** and after selecting certain tabs that access a web Group interface for the first time.


Security Alert
Information you exchange with this site cannot be viewed or changed by others. However, there is a problem with the site's security certificate.
The security certificate was issued by a company you have not chosen to trust. View the certificate to determine whether you want to trust the certifying authority.
The security certificate date is valid.
The security certificate has a valid name matching the name of the page you are trying to view.
Do you want to proceed?
Yes
No
View Certificate

**Figure 14.3. Browser security message**

Confirm this message by clicking on **Yes** for the page to be displayed correctly.

If you clicked on **No** here, restart **Offboard Diagnostic Information System Service** and click on **Yes** to correctly display the page.

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# Glossary

| | |
|---|---|
| Amplitude | The maximum value that the deflection of an oscillation of an alternating current, e.g. an AC voltage, may have. |
| Adaptation | This service permits the interactive modification of parameters of the addressed control system. The modified values (e.g. correction values for no-load speed) can also be saved permanently to the control units. The user is given the option of changing the value and transferring it to the non-volatile memory (RAM) for checking. The control unit creates the new values at its outputs and the user is able to check the system's reaction. If the correct correction value is found, the tester arranges for the control unit to transfer the value and the workshop code to the programmable read-only memory (EEPROM).<br><br>As opposed to the default setting, the respective control circuit is in closed state. The adaptation is used to determine system-specific parameters and save them to the vehicle system. |
| ASAM ODX | Association for Standardization of Automation and Measuring Systems (http://www.asam.net)<br><br>Open Diagnostic Data Exchange |
| Mode | Each of the basic functions of the tester that can be accessed via the start screen: "Flash", "Diagnosis", "Info" and "Admin". Each mode consists of a number of individual functions. |
| Bluetooth | An industrial standard for radio transmission between devices over a short distance. |
| Client | A program on the PC for connecting to a server. For example, a network client is a program that connects to a server in the network so that the PC can be operated as a workstation in the network. |
| Diagnosis | |
| Diagnostic connection | Connector socket for the diagnostic cable on the tester or on the vehicle. |
| Diagnostic object | Collective term for diagnostic functions, assemblies or components modelled in the diagnostic object tree. Not to be confused with diagnostic bus object (def.: operating manual DES-VW A11.0). An object (function, component or component group) to which the diagnostic function is applied.<br><br>Diagnostic objects should be named according to the master list. Even if currently not relevant, this needs to be done in the future for the circuit diagrams on the tester to be requested according to the terminology from Elsa in the master list. |
| Diagnostic protocol | The diagnostic protocol includes a list of control units with the corresponding event memory entries, DISS codes and manually created text. |
| DIDB | |
| Direct current measurement (inline current measurement) | Current measurement during which the tester is integrated directly in the circuit like an ammeter. The opposite: inductive current measurement via clamp-on ammeter clamped on to the cable. |
| DISS | The DISS system (Direct Information System Service) is used to record vehicle complaints and to support the service core process. |

| | |
|---|---|
| | - Recording of complaints<br><br>- Reporting of existing complaints |
| DTC | Diagnostic Trouble Code. An event memory entry consisting of fault location, fault types and possibly ambient conditions. |
| DTS (Softing) | Diagnostic Tool Set - software for creating diagnostic applications. |
| ECU | Electronic Control Unit |
| Self-diagnosis | Vehicle systems are capable of self-diagnosis. That means: they have methods for constantly checking their own functions, as well as sensors and actuators connected. A fault normally results in the entry of a fault code in the event memory of the vehicle system. The tester has knowledge of all faults in its knowledge base, so that after reading out the event memory it can assign the fault code to a fault type and location and thus derive a test proposal. |
| Own test plan | Diagnostic strategy, with which the user selects possibly faulty functions or components himself. If errors in vehicle systems are also detected during the diagnostic session or if a complaint message was entered, a distinction is always made in the test plan between system test plan and own test plan. |
| End module | An end module may consist of one or more function tests that are started automatically after exiting guided fault finding. End modules are e.g. for feedback to the vehicle manufacturer. |
| Event code | |
| Event location | |
| Event memory | |
| Rules based on experience | Logical link between perceived symptoms and/or symptoms from the event memory model. A rule based on experience may be weighted according to its reliability and assigned to one or more diagnostic objects. |
| eShop | eShop is the system for ordering and licensing software and diagnostic data within Volkswagen's Offboard Diagnostic Information System. |
| Vehicle identification | Vehicle identification is performed by determining the basic vehicle characteristics (type, model year, variant, engine code) that can also be identified automatically or semi-automatically at an existing gateway. This data is used to create a list of control units and equipment possibly installed and check their installation during the vehicle system test. |
| Feedback | |
| Error classification | |
| Flash data | Flash data refers to program components that can be loaded for a vehicle system. |
| Flash memory | Read-only memory, the data of which is retained even without power supply. Unlike permanently programmed memory modules, a flash memory can be updated by a corresponding update process (via flash CD). |
| Function | |
| Function test | |

| | |
|---|---|
| Gateway installation list | A gateway control unit has information on the vehicle systems installed in the vehicle. It monitors the vehicle systems and keeps a status list. By querying the gateway installation list, e.g. whether the event memory of a vehicle system is set, it is possible to query whether it is registered (coded) or whether communication is possible. The installation list is evaluated in the context of vehicle identification and improves the performance of the identification process. |
| Guided fault finding | With guided fault finding, the diagnostic procedure is integrated in an optimised process consisting of vehicle identification, vehicle system test, test plan and function tests. |
| Guided functions | Execution of a vehicle-specific function outside GFF, e.g. determining a measured value. |
| Default setting | The default setting is used to adapt control units to the peripheral devices. |
| Basic characteristics | A vehicle is identified via the basic characteristics: type, model year, variant and engine code. Its equipment, however, is determined during the vehicle system test. |
| Hardware key, hardwareID | Hardware features coded as strings. The hardwareID is part of the device-specific licence. |
| Hotfix | |
| IP address | Abbreviation for "Internet Protocol Address". Every computer connected to a computer network (TCP/IP) has a unique IP address. It consists of four groups of numbers separated by dots (e.g. 194.0.0.135). IP addresses can be assigned automatically by DHCP servers. |
| Actual no. | |
| Calibration | Precise adjustment of a test instrument (e.g.: clamp-on ammeter) according to specifications and correction of a measuring deviation by the compensation of systematic errors. |
| Maximum no. | |
| Test instruments | You can use the test instruments for independent measurements, the results of which are displayed numerically or graphically on the tester. A multimeter and an oscilloscope (DSO) are available. |
| Measured value block | A defined group of measured values read out of a vehicle system. |
| Mirror server | A software package installed e.g. locally on the dealer server and that provides data there, such as the update programs for VAS 505x. The dealer server is connected to the headquarters and receives the latest updates from there. Within the workshop, every tester connected to the LAN collects the latest programs automatically when switched on, or explicitly when the "Network update" function is executed in the administration area. |
| Offline | There is no active connection to a communication network. |
| Online | Active connection to a communication network, such as the workshop network, Volkswagen's partner network or the Internet. See also Online connection. |
| Online protocol | A protocol that is sent to a vehicle manufacturer via online connection. |
| Online connection | External connection, e.g. to the Internet or the Volkswagen server. |

| | |
|---|---|
| Oscilloscope | Measuring and display device for electrical signals that displays the progression of the signal strength in time (e.g. oscillations). |
| D-PDU-API | D-PDU API is a standardised software interface for connecting diagnostic interfaces to the diagnostic software. |
| Platform | |
| Protocols KW1281, KW2000, KW6000, UDS | The keyword protocols define the exact procedure for data exchange between control unit and tester. Older control units communicate according to KW1281. Newer control units work according to KW2000 or KW6000 (CAN diagnosis), ASAM control units according to UDS. During vehicle self-diagnosis, prior to the selection of the diagnostic functions for a control unit, the tester automatically determines its keyword protocol version. |
| Provider | A service provider offering communication services, such as telephone, mobile communications or Internet. |
| Proxy server | A proxy server is equivalent to a switching centre between clients and another network. It accepts requests from a client and forwards its data (possibly in modified or anonymous form) to the original destination (in the other network, e.g. Internet). Proxy servers are able to temporarily store the data locally that is transferred, for further access (caching). |
| Test plan | Weighted sequence of test programs proposed to the service technician by the processing system for vehicle repairs. |
| Test step | A complete unit of a function test. |
| Readiness code | 8-digit binary code that indicates whether all diagnostic operations relevant for exhaust gas and safety were dealt with by the engine management system. |
| Release notes | Version notes enclosed with a software version. New or modified functions compared to previous versions are described in these version notes. |
| Screenshot | Copy of the current screen content into an image file. |
| Sensor | Device that records measured values. |
| Server | In computer technology, server refers to a central network computer. It provides the clients with the corresponding services or data. |
| Reliably installed (control unit) | |
| Target installation | |
| Start module | A start module may consist of one or more function tests that are started automatically after the vehicle system test. They are e.g. for checking whether new flash data is available for a vehicle system. |
| Control unit | Electronic device for controlling and monitoring vehicle functions, e.g. engine control unit. See ECU, vehicle system. |
| Touchscreen | A screen that is also used as an input device. The device, e.g. a computer or mobile telephone, can be controlled by touching screen contents. |
| TPL | |
| Traversion test | This type of test is used to identify control units and derive information from them that enables automatic vehicle identification. For this, the structures of the equipment network are gone through automatically. |

| | |
|---|---|
| UDS | Unified Diagnostic Services; as per ISO 14229, standardised protocol for control unit communication, based on KW2000 for ASAM-ODX control units. |
| Update | Software modification package for updating an existing software product to a higher version status.<br><br>1. New version of the processing system imported from CD-ROM.<br><br>2. New program version of a vehicle system imported from the tester. |
| URL | Abbreviation for "Uniform Resource Locator". A URL corresponds to the address of an Internet resource (website, file, ...). Example: http://www.volkswagen.de |
| Variant, variant rule | The term is used in the context of the equipment of vehicle systems. Some equipment, e.g. an airbag, may be available in different variants for an identified vehicle. The main purpose of the vehicle system test is to find out which variant is actually installed. If the variant cannot be determined automatically, Yes/No questions relating to the equipment will follow, e.g. "Automatic gearbox?" The mechanisms for determining the variants are referred to as variant rules. Their results determine which diagnostic data is provided. |
| Installation list | List of the control units installed in a vehicle. |
| Installation status | |
| Verification | |
| Workshop code | |
| Certificate | Licence document in which all authorisations, scopes and properties of the software and diagnostic data are stored. The certificate is the prerequisite for the operation of the test software, which is checked every time the application is started. |